A STUDY OF THE DEVELOPMENT OF COMMUNITY COLLEGE DISTANCE EDUCATION POLICIES

By

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A STUDY OF THE DEVELOPMENT OF COMMUNITY COLLEGE DISTANCE EDUCATION POLICIES

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The purpose of this study was to identify the consistencies, similarities and differences between states that have distance education policies and programs and those that do not. The intent was to identify areas of common ground upon which states can build new policy frameworks for the development and delivery of distance education at the postsecondary level. Three policy areas where determined to have a major effect on the ability to provide quality distance education programs. These include; infrastructure, program development, and faculty and student support. The findings of the study indicate that a practical difference does exist between states that have distance education policies and those that do not. The following include the seven recommendations that have emerged from this study for policymakers; 1) resource management, 2) regulation, 3) accreditation, 4) articulation agreements, 5) development of partnerships and collaborations, 6) faculty training and development, and 7) development of student support systems.

To my mother, Diana Baker, who knew from early childhood that I was meant to follow in her footsteps as a teacher and encouraged me to do so; to my step-daughter, Mikeala Hodge, who studied alongside of me and supported me in my pursuit of knowledge; and to my husband, Ronald Hodge, for supporting me throughout our marriage to follow my heart and achieve all my dreams in what was going to be a lifelong journey in education.

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Major Department: Educational Leadership, Policy, and Foundations

The study was designed to analyze the differences between those states that have distance education policy and those that do not, exploring the consistencies, similarities, and differences upon which policymakers could generate new state and institutional policies.

Three policy areas were determined to have a major effect on the ability to provide equitable and quality distance education programs. These included infrastructure, program development, and faculty and student support.

All 53 community college state directors were surveyed, each representing his/her state or district. The return rate was 48%. The purpose of the survey used in this study was to collect data from each state director relating to distance education policy. The instrument was also used to determine which states currently had distance education policies in place.

Given the nature of this research project the four research questions were addressed independently using multiple one-way analysis of variance. The study compared the means of the two groups based upon the dependent variables of infrastructure, program development, and faculty and student support to determine if the differences between them represent a systematic effect.

The findings of the study indicated that the states with distance education policies responses to the three dependent criteria had not yielded significant differences when compared by states without distance education policies. The findings of the descriptive statistics indicate that a difference does exist between states that have distance education policies and those that do not. Based on this premise further qualitative investigation was done to assess which factors effect the development of policy.

The qualitative data analysis shows that many of the characteristics identified within the dependent factors of infrastructure, program development and faculty and student support have helped to advance institutions in their pursuit to provide equitable and effective distance education programs. Seven recommendations address the various characteristics of distance education policy both at the national and institutional level.

CHAPTER 1
INTRODUCTION

Traditionally, there has been a fundamental gap between policy initiatives and the realities of educational practices (Education Commission of the States, 1998, p. 1). Concerns about the economic competitiveness of higher education institutions have created a dilemma when it comes to funding higher education programs. Therefore, the study of distance education policy has become a key element to ensuring that postsecondary education be responsive to state and local needs as we enter the 21st century.

> There has clearly been a need for state policies that direct how new learning technologies were to best be integrated at the institutional and system levels. There was also a responsibility that the states play a more active role, albeit one that was tempered with caution, intelligence and recognition of the complexities involved. (Gillespie, Jonsen, & Witherspoon, 1987, p. 3)

The problem that faced postsecondary institutions was the development of policies that met both state and local needs. State policies have been used to analyze the characteristics, components, and underlying philosophies of state procedures and to assess similarities in order to group states into a model or series of models. Mingle (1988) stated,

> An agency s priorities would, in fact diverge from issues central to the legislative agenda. Although the scope, extent and intensity would vary, the energies of most state higher education agencies have been devoted primarily to the following activities:
>
> 1. To provide for equitable distribution of state funds among public institutions.

2. To protect the public purse by ensuring efficient use of those funds.
3. To protect the educational consumer.
4. To provide a mechanism for public accountability.
5. To minimize institutional competition and to referee disputes. (p. 355)

Based on Mingle s statement, distance education required the reconceptualization of state and institutional policies.

Purpose

The purpose of this study was to identify the consistencies, similarities, and differences between states that have distance education policies and programs and those that do not. The intent was to identify areas of common ground upon which states can build new policy frameworks for the development and delivery of distance education at the postsecondary level. The distance education survey was undertaken with support from Community College Business Officers and National Council of Community College State Directors. Each of these organizations identified the critical issues surrounding distance education programs at the state level. The three factors from a review of literature and believed to affect the expansion and quality of distance education programs were described in three general categories: (a) infrastructure, (b) programs, and (c) faculty and student support. By identifying the consistencies, similarities, and differences of distance education policy at the state level, it is hoped that future policy will provide a basis upon which higher education will be able to develop and implement quality distance education programs.

Questions

The research questions addressed were as follows:

1. To what extent do infrastructure policies differ when compared by the states that have distance education policies and those that do not?

2. To what extent do program development policies differ when compared by the states that have distance education policies and those that do not?

3. To what extent does a relationship exist among the states that have distance education policies and those that do not to the responses on faculty and student support?

4. To what extent does a relationship exist among the states that have distance education policies and those that do not to the responses on the barriers which have kept postsecondary institutions from expanding distance education programs?

The factors selected for the analysis were compiled from a review of literature, a study conducted by Rhonda Epper, program director for the State Higher Education Executives, and criteria identified during a national convention for chief business officers and community college state directors.

Definition of Terms

The following terms in this study had implications that may vary from commonly accepted definitions. The following is a list of terms and an explanation of each.

Institution may be a two- or four-year college or university that is authorized to award degrees in its own name.

Postsecondary education and training beyond the high school level offered at public and private universities, four-year colleges, community colleges and technical institutes.

State funds are monies appropriated by the state legislature for financing higher education institutions.

Local funds are monies from all public in-state government sources other than state level.

Student tuition and fees are assessments made against students for payment of courses, technology fees, laboratory fees and equipment use.

Funding model is a descriptive framework categorizing states according to similarities in methods of funding community colleges.

FTE is defined as full-time equivalent (15 credit hours = 1 FTE)

Programs are activities that were provided to increase student learning and at the same time maintain cost effectiveness.

Governance is the process with which administrators, faculty, staff, and students work together within an institution to establish and carry out regulations and policies.

Infrastructure include the facilities and collection of technology that were commonly available to further educational activities.

Delimitations

The scope of the study was limited to data available from all 53 community college state directors. The list of 53 community college state directors was obtained from the American Association of Community Colleges.

It should be noted that the responses to the survey were obtained strictly from the community college state directors. In many instances the community college state director s office is in association with the university system and therefore reflects many of the policies instituted by the four year university system. The following study specifically analyzes state policies with no attempt to address how each institution should implement distance education programs.

The descriptive policy analysis and recommendations were limited to the nine states that responded to having a distance education policy.

Significance of the Study

With the explosive growth of technology and the effects it has already had on higher education, it has become imperative to determine which state policies have afforded for equity and quality in postsecondary institutions.

> Jim Mingle 1996, noted the dominant decision-making and allocation paradigm for American higher education has been public policy. Whether through direct appropriations from state for public institutions, tax exemption and federal grants for private institutions or need-based aid for proprietary organizations, public subsidies have long been the lifeblood of higher education. Any change in public support would have a dramatic impact on education s decision making process and on the ability of many institutions to survive. (Twigg & Oblinger, 1996, p. 9)

By exploring the consistencies, similarities, and differences among state policies and programs, it was hoped that the data would help determine benchmark policies for each state that would be used to develop model distance education programs. Whittington (1990) stated funding is the dominant consideration in institutional input to policy development. Institutional concerns over independence, reputation, and funding would be almost antithetical to state agency concerns for equity, fiscal efficiency, and at least the appearance of responsible oversight of institutional accountability. As a result, the state agency and the institutions bring about different perspectives to policy issues (Whittington, 1990, p. 337). With spiraling educational costs and increased concerns over equity and accountability, each state has an obligation to develop policies that would have a positive effect on the states institutions and economy. Piller (1992) stated,

> One of the major issues associated with the use of technology in institutions is equity. The danger is that the distance between the educational haves and have nots (or between the haves and have mores) will be widened. By the year 2000, we would have created a Schismin American society between have and

> have not graduates from our own institutional systems. If computers have not been successfully integrated into primary and secondary education, our society would stratify into those with the knowledge to succeed and those who can not. (pp. 218-231)

According to Richard Millard (1991), equity focuses on four central issues for national concern:

1. The changing demographics of the nations workforce.
2. The changing nature of the economy. The increased emphasis on telecommunications and technology infrastructure.
3. The increased need for quality education as the nation prepares for increased number of senior citizens and social security issues.
4. The growth of the global economy and the need for an educated workforce. (p. 175)

The challenge has been to address the similarities and differences in policy for distance education and determine which states have developed equitable and efficient distance education programs. To address distance education issues, in 1998 the State Higher Education Executive Officers (SHEEOs) conducted a survey to determine which trends affect the development of distance education. The study determined that the following issues were at the forefront of policy discussions:

Resources

- Obtaining more funds
- Estimating cost of programs
- Developing ways to share revenue between sending and receiving institutions
- Determining appropriate feel levels to charge
- Encouraging collaborative development of programs

Faculty Issues

- Faculty development
- Intellectual property rights

Policy Development

- Developing statewide technology strategy
- Streamlining the program approval process
- Viability of geographic service areas
- Establishing program priorities (Epper, 1999).

The study determined that further investigation of these issues was needed to determine policies that would assist educators and policymakers in making accurate and informed decisions. To date, attention of both scholars and policymakers have been focused almost exclusively on policy issues rather than on the development, content, and structure of instructional telecommunications policies themselves. Since agencies borrow model policies from one another, this study helped to determine what characterizes good instructional telecommunication policy. Clearly, the importance and use of technology for instructional purposes has not diminished and can reasonably be expected to increase in both the industry and educational markets. As we entered the new millenium, educational institutions were expanding their telecommunications infrastructure to provide a variety of programs utilizing distance education.

Overview of Research Methods

The research study analyzed the differences between states that have distance education policies and those that do not, exploring consistencies, similarities, and differences upon which policymakers would generate new state and institutional policies that would help to build equitable and efficient distance education programs. The survey addressed state and institutional policy and financial and infrastructure issues as well as factors relating to faculty and student support.

Following the development of the questionnaire, a meeting was held with the education commission of the states and a select group of community college state directors to perceive if the data were applicable and easy to process. Revisions were made to the survey. The survey was then sent to a distance education expert at the state higher education executive offices. The survey was reviewed and critiqued for the applicability and design of the survey. The survey was then sent out to a select group of business officers and state directors to determine if the questions were applicable and easy to interpret and answer. Once all the necessary changes had been made to the survey, the survey was sent out to 53 community college state directors. The list of 53 community college state directors was obtained from the American Association of Community Colleges. The return rate was 48%.

Data Analysis

The data were recorded into Microsoft Excel, and the statewide data were analyzed using StatView. The data gathered from the survey was collapsed into the three areas identified as dependent variables, (e.g. infrastructure, program development and faculty and student support). Descriptive statistics were computed for each survey item. These include frequency distributions, means, mode, percentages, and standard deviations. The dependent variables consisted of infrastructure, program development, and faculty and student support. The independent variables used to classify the state respondents were based upon those states that have policy versus those that do not.

The four research questions were addressed independently using multiple one-way analyses of variance. Analysis of variance studies the effect of independent variables on a continuous dependent variable (SAS, 1999, p. 73). The analysis of variance

determined the significance of the effects in a model by calculating how much of the variability in the dependent variable could be explained by the effect in question. This resulted in an F-statistic that could be used to test the importance of the effect in question (SAS, 1999, p. 73). The statistical design placed subjects into groups based on the independent variable of policy versus no policy among state level distance education programs. The study compared the means of the two groups based upon the dependent variables of infrastructure, program development, and faculty and student support to determine if the differences between them represent a systematic effect. In classic inferential statistics if the F-value were large enough, then the null hypotheses was rejected with confidence that the researcher was correct in concluding that at least two means were different. However, assessing the statistical significance of policy research, the finding need not be bound by the traditional .05 alpha level. Since the subject matter of policy research is usually complex and poorly understood, findings may be statistically significant even if a .05 level of significance is not obtained. In certain studies, findings that hold in 85% or 90% of the cases may be sufficiently robust for policy purposes (Majchrzak, 1987, p. 69). Another important issue to policy research was that the researchers must assess the political significance of the findings to determine which factors they should emphasize when making recommendations.

The null hypothesis stated that there were no differences between the values of the dependent variable that can be explained by the differences in the independent variable of the model (SAS, 1999, p. 74). A null hypothesis was developed for each of the four identified areas addressed in the review of literature and criteria identified as critical issues to the development and implementation of distance education policy. The

hypothesis tests were used to determine if there were any differences. The nulls were used to test for differences in responses to each of the following dependent variables: infrastructure, program development, and faculty and student support. The dependent variables were analyzed using the one-way analysis of variance with the independent variables of policy versus no policy. The statistical data were used to determine the consistencies, similarities, and differences in policy for distance education to identify areas of common ground upon which states could build new policy frameworks for the development and delivery of distance education at the postsecondary level.

Hypotheses

1. There is no significant difference in the measures of infrastructure for those states that have policies and those that do not.

2. There is no significant difference in the measures of program development for those states that have policies and those that do not.

3. There is no significant difference in the measures of faculty and student support for those states that have policies and those that do not.

4. There is no significant difference in the barriers which have kept postsecondary institutions from expanding distance education programs for those states that have policies and those that do not.

Each hypothesis was analyzed to determine the level of significant difference. To confirm that the analysis of variance was conducted properly, appropriate post hoc testing was preformed.

Organization of the Study

The remainder of this study has been organized into four chapters. Chapter 2 presents a review of literature, which encompasses history, policies, and a review of dependent criterion. The statistical methodology used to analyze the data and specific procedures for this study are presented in Chapter 3. Chapter 4 discusses a detailed analysis of data findings. Chapter 5 includes the summary and concluding statements of the study with recommendations for future research.

CHAPTER 2
REVIEW OF LITERATURE

Introduction

Chapter 2 is separated into three main sections. Presented first is a review of literature in the area of distance education history. Included in this section is the background and history on how distance education was developed and integrated into education and also includes the role of distance education at the post secondary level. Section two reviews distance education policy guidelines. Topics include community college distance education criteria and issues of accreditation. The final section of Chapter 2 explores the current topics affecting distance education policy. Topics include (a) quality and equity, (b) infrastructure, (c) programs, and (d) faculty and student support.

Background, History, and Growth

Education at a distance can be traced back to as early as the 1700s with the implementation of correspondence study, which utilized at-home study. However, the first use of the term distance education in English was at the conference for the International Council for Correspondence Education held in Warrenton, Virginia, in 1972 (Moore, 1990, p. xiv). It was during this conference that participants were faced with a dilemma of finding a term to describe the field of learning at a distance. This continued to be a struggle for researchers who in the past few years have seen tremendous growth in

the telecommunications field. The terms that were related to learning at a distance began their origin as early as 1840, when Isaac Pitman offered tuition by post in shorthand to students in England (Keegan, 1993, p. 62). This form of education known as correspondence study has been characterized by education conducted by the postal services without face-to-face contact between teacher and student. Teaching was done by written or tape-recorded materials sent to the student, whose progress was monitored through written or taped exercises to the teacher, who corrects them and returns them to the student with criticisms and advice (UNESCO, 1979, p. 29). Other terms used to describe learning at a distance include home study and independent study. Home study was confined to furthering one s education, while independent study was a more generic term used to describe the teaching and learning activities that take place independent of one another. However, the concept of distance education was not new, and throughout the years the methods and delivery systems have changed, providing society with a variety of definitions. Keegan as cited in Moore, (1990) brought together a number of similar definitions to analyze and determine the seven basic defining elements of distance education:

- The separation of teacher and student
- The influence of an educational organization
- The use of technical media to unite teacher and student and carry the educational content
- The provision of two-way communication so that the student may benefit from or even initiate dialogue

- The absence of group learning, while retaining the possibility of occasional meetings for both didactic and socialization purposes
- The participation in an industrialized form of education which, if accepted, contains the genus of radical separation of distance education from other forms within the education spectrum (systematic work, e.g., division of labor) (Holmberg 1981)
- The privatization of learning in that learning occurs away form the group (Rumble, 1986).

As a result of previous considerations, distance education may be conceptualized as

> the field of educational endeavor in which the student was quasi-permanently separated from the teacher throughout the length of the learning process; the student was quasi-permanently separated from the learning group throughout the learning process; a technological medium replaces the interpersonal communication of conventional, oral, group-based education; the teaching/learning process was institutionalized; two-way communication was possible for both student and teacher . . . it represents an industrialization of the educational process. (Keegan, 1990, pp. 42-43)

For the purpose of this study the definition used to describe distance education was based on the United States Distance Learning Association which consists of the transmission of technology of electronic means to geographically dispersed groups in all areas; K through 12, Higher Education, Continuing Education, Corporate Training, Military and Government training (USDLA, 1996). For the purpose of this paper distance education and distance learning are synonymous.

History

Correspondence courses have been offered by various postsecondary institutions for over a hundred years. Historically, distance education had its roots in the postal system, the printing press, and radio and television broadcasts to meet the needs of the

geographically dispersed or isolated students. Distance education traces its origins to mid-19th century United States and Europe. Holmberg (1986) cited the first reference to distance education as an advertisement in the Boston Gazette in 1728 for a correspondence course in shorthand (p. 8). The University of Chicago under the presidency of William Harper began the first major program of correspondence instruction in 1890 (Moore, 1990, p. xii), while Pennsylvania State University, for example, offered its first agricultural courses in the 1890s and added credit correspondence courses for professional engineers in 1918 (Burgess, 1997, p. 7). The 1920s saw the invention of educational radio, and the advent of the television in the 1940s created important new forms of communication for use in distance education. Educators used these new technologies to broadcast educational programs to millions of learners, thus extending learning opportunities beyond the walls of conventional teaching institutions. Early in 1970 satellite technology began to make its mark in distance education. Satellites made international courses possible. Distance education had come of age after a checkered and often criticized first 100 years (Keegan, 1986, p. 4). The improvement of distance education in the 1970s was both qualitative and quantitative. It can be attributed to the following:

- The development of new communications technology (Bates 1982: Ruggles 1982).
- A growing sophistication in the use of printed materials (Daniel Stroud 1981).
- Improved design of instructional materials (Holmberg, 1981).

- The foundation in 1969 of the Open University (UK) at Milton Keynes and the subsequent foundation of a series of similar structures in both developed and developing countries (Rumble and Keegan 1982). (Keegan, 1986, p. 4).

Nearly every country in the world made use of distance education programs in its education system. The last decade has seen a phenomenal growth in distance education and in the integration of this method of education into the standard educational provision in a large number of countries to such an extent that it was now no longer possible to think solely in the traditional sense of face-to-face contact (Sewart, Keegan & Holmberg, 1983). Britain s nationally supported Open University, based in Milton Keynes, Buckinghamshire, England, has one of the best-known programs (Moore, 1990, p. 16). Holmberg stated that the British Open University owed its success and survival to strong leadership, governmental support, and the recruitment of an enthusiastic academic staff. It was the founding of the Open University in the United Kingdom in 1970 that, above all, marked the beginning of a new era. It gradually created general public recognition of distance education. Distance education increasingly used combinations of communication technologies that enhanced the abilities of teachers and students to communicate with each other (Moore, 1990, p. 16).

In the 1980s distance education emerged as a standard component of the provision of education in many national systems (Keegan, 1986, p. 3). With the spread of computer-networked communications in the 1980s and 1990s, large numbers of people gained access to computers linked to telephone lines, which allowed teachers and students to communicate in audio and video conferences via computers (Moore, 1990). Technological advances provided the ability to integrate different delivery systems via

distance learning. The variety of delivery systems available included audiocassette, audio conferencing, audiographic conferencing, broadcast television, computer conferencing, electronic mail, interactive audio/video, on-line services, radio broadcast, satellite network, telecasts, telephone contact, and video cassette. These advances in technology increased access to education regardless of geography, work, or family commitments. The last decade and the first years of the 1990s were just a sampler of the bewildering pace of technological change and concomitant turbulence that has continued to change the educational experience and can be expected to continue into the next decade and in the millenium to come (Burgess, 1997).

Technology

In 1997 Al Gore, Vice President of the United States, stated, We were on the verge of a revolution that was just as profound as the change in the economy that came with the industrial revolution. Electronic networks have allowed people to transcend the barriers of time and distance and take advantage of global markets and business opportunities not even imaginable today (Gore, 1997).

The technological advances that were made available just 2 years after his comments have increased ease and access to obtaining an education. In 1989 the U.S. Congress published *Linking for Learning* which provided a summary of technology choices in distance education. These included,

1. Many technologies were used to provide education over a distance. No one technology was best for all situations and applications. Transmission systems include satellite, fiber optics, instructional television fixed system (ITFS), microwave, the public

telephone system and coaxial cable. Any of these technologies can be interconnected to form a hybrid system (p. 53).

2. The technologies for accessing storing and manipulating information have had a greater impact on the distance education experience than the transmitting technology.

3. The base of telecommunications infrastructure available for distance education was wide and expanding. This has created more opportunity for schools to form innovative partnerships.

4. Digital technology and compression techniques greatly increased channel capacity.

5. New satellite technology made possible transmitting programming directly to the general public. Transmission was received at any location with a small receiving dish (U.S. Congress, 1989).

The bottom line was that, as we approached the new millennium, more technological advances were being made, providing society and educational institutions with an abundance of delivery mediums to choose from. These new advances were providing for synchronous communication opposed to asynchronous. Synchronous forms of communication included chat rooms, video and audio conferencing, I-link courses, and a variety of components which have been made available through the use of advanced telecommunications. Combined, these components recognized the academic rigor and educational outcomes that could be packaged and delivered in a flexible distance-learning format that meets the immediate needs of the student (Gross, 1995, p. 30). The future of education has continued to see rapid changes in technology, and institutions can

anticipate new telecommunication applications in education as science and technology continue to invent new and better formats.

Higher Education

> Society s higher education requirements have been undergoing a fundamental transformation. A rapidly growing student population has become older and increasingly diverse. In addition, the new economy requires a workforce capable of handling an exploding knowledge base. Industries must look to higher education institutions to provide the necessary education and training. There has also been financial pressure: colleges and universities must control and even reduce costs, as well as manage new competitive dynamics, while responding to growing demands. On their own, each of these factors was significant; collectively they challenge fundamental higher education strategies and practices. (Twigg & Heterick, 1997, p. 1)

Policymakers have been filled with questions and speculation about the future role of providing distance education and have been primarily concerned with the changes in policy that will need to be made to meet societal and economic needs. We know that demographics have been changing. We know instructional technology has been changing. We have been aware that distance learning would effect our future somehow, but have been unsure how or to what extent (Gross, 1995, p. 28). It was the idea of increased access, student diversity, technological advances, and infrastructure that fueled the process of change in curriculum development in the past and as we teeter on the ledge of future policy issues. The development in technologies and the explosive growth of networks has continued to erode the geographic hegemony of higher education. Students have been selecting educational institutions based more on offerings, convenience, and price than on geography (Twigg & Oblinger, 1996, p. 4). Combined, these components have attributed to the development of distance education within higher education. Yet, the road to providing distance education has not always been met with open arms.

The struggle to integrate distance education into education has been wrought with criticism for both the development and integration of technology in and out of the classroom. However, the number of distance education programs offered by community colleges and universities across the United States has continued to increase at a phenomenal rate--so fast, in fact, that it was difficult to obtain precise figures for the number of programs or the number of students involved.

Figures to measure distance education programs and enrollment were taken from a study conducted in 1997 by the National Center for Education Statistics. The results of the study showed that a third of higher education institutions offered distance education courses in the fall of 1995; another quarter planned to offer such courses within the next 3 years; and 42% did not offer nor plan to offer distance education courses in the next 3 years. The study also researched the type of institution which provided distance education courses. The research indicated that in 1995 a large percent of distance education courses were provided by public institutions: 58% of public 2-year and 62% of public 4-year institutions offered distance education compared with 2% of private 2-year and 12% of 4-year institutions. The research estimated that there were 753, 640 students formally enrolled in distance education courses at higher education institutions in academic year 1994-1995. Public 2-year institutions enrolled the most distance education students: 414,160 (55%), while 4-year public institutions enrolled 234,020 students (31%) with the remainder of 104,960 enrolled in private 4-year institutions (Lewis, Alexander & Farris, 1997, pp. 5, 21). Peterson s 1994 Guide to Distance Learning listed 93 accredited distance education programs, while the 1999 guide lists over 900 programs (Peterson s, 1999). The Distance Education and Training Council (DETC), which was authorized by

the U.S. Department of Education to give accreditation to institutions offering distance learning courses estimated that there have been 3 million distance learners nationwide (DETC, 1999).

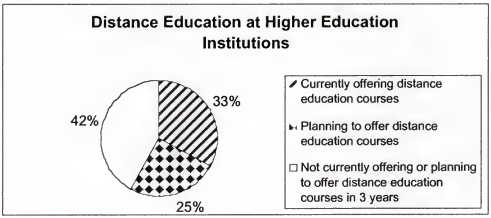

Figure: 2-1. Illustrates the percentage of distance education courses being offered in 1995 and future plans to offer courses.

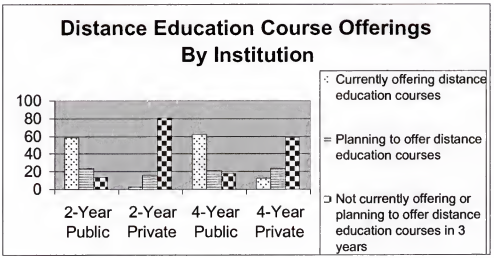

Figure 2-2. Illustrates the type of institution offering distance education courses for 1995.

Policy

In the past distance education policies dealt with regulation on control of program duplication, geographic boundaries, and discussions on how to delineate appropriated funds for infrastructure. Even in today s coordinating agencies, regulatory responsibilities have played a major role in the development of public policy. Yet, according to Nancy Zeller, who conducted a survey on distance education and public policy stated,

> There has been cause for concern about the current status of distance education in North America where a wide range of distance education delivery systems have been supported in varying degrees by the states and provinces. In most, little planning and/or coordination has taken place, let alone use of distance education as an instrument of public policy. It has not been surprising that the current distance education systems often reflect the higher education systems of their various states. (Zeller, 1995, p. 145)

Zeller s study found evidence that the government had begun to adjust its view of distance education. Of the various concerns expressed in the interviews and planning documents, the following were most frequently mentioned:

1. Technology has been advancing so rapidly that it threatens to outstrip the capacity of existing structures (social, organizational, management) to manage it. This often-repeated comment reveals the growing awareness of the problems associated with a technology-driven distance education.

2. Institutions have developed their own distance education systems at the expense of statewide compatibility, as well as duplicating resources and efforts.

3. The current first-come-first serve policy about access to distance education resources and pathways has undermined the state s efforts to meet any goal it has of expanding educational opportunities for undeserved populations. Some planning documents recommended that priorities be set, either by the state or, at least, with state involvement.

4. While technical personnel have provided leadership in distance education in the past, academic personnel must increase their role in programming decisions and planning for distance education. Bates agrees that educators,

> rather than technologists should be in the drivers seat so that learners would not be run over by the technology. (Zeller, 1995 p. 143)

Higher education in today s environment has been highly regulated. For example, institutions operate under the rules of more than 65 accrediting association, various federal agencies including the Departments of Education, Veterans Administration, and Defense; state regulatory and licensing agencies; and particularly the public sector and multicampus governing boards (Heterick, Mingle, & Twigg, 1997, p. 5). The principal objective of this research study was to understand better the barriers to the expansion of distance education programs and to help determine the structure of distance education by exploring the consistencies, similarities, and differences of state and local level policies. By analyzing research in this area, it has enabled policymakers and state coordinating boards to develop new initiatives and policies to the design and development of distance education programs.

Given the changing needs of society and the increased number of learners demanding educational opportunities, higher education institutions have become an important starting place in the exploration of the technological, political, and organizational factors needed to support distance education. According to Twigg and Oblinger, the single most important factor to affect higher education has been the changing demographics which lead to an increase in the average age of students. The second force behind public policy in higher education was business and the increased need for a skilled workforce. The third reason for the new consumerism in education has been the ascendancy of the baby boomer generation to political power. However, the most important issue on the policy level was one which provided funding to research projects which have led to a better understanding of technology-enabled learner-centered

education (Twigg & Oblinger, 1996). Currently, distance education policy has addressed the key issues of (a) quality and equity, (b) infrastructure, (c) programs, and (d) faculty and student support. It is now up to the legislature and the state to determine explicit goals for distance education programs and demonstrate that they have met the institution s stated purpose and mission. Developments in information technology and distance learning have challenged many of the assumptions and virtually all of the foundations upon which states and systems of higher education have built their coordination and planning, governance, program development, and financing policies. New consortia which deliver distance education programs and the ability to have multiple partners have crossed the role and mission boundaries, as well as state and national boundaries, and have challenged the criteria upon which program authorizations have been made in the past. (Twigg & Heterick, 1997, p. 1). Within higher education, distance education policy has been derived from (a) the legislature, (b) the state, (c) institutional policy, (d) the creation of distance learning consortiums, (e) the Accrediting Commission for Community and Junior Colleges, and (f) accrediting agencies such as the Southern Association of Colleges and Schools, Western Association of Colleges and School, and several other accrediting agencies. Goldstein (1993) stated that there have been three key factors that control or regulate technology: the federal government, the states and the accrediting community (p. 32). These three areas have been the focus of the policy analysis cited below.

Federal Legislation

A report issued by Secretary of Education, Robert Riley, addressed the Reauthorization of the 1965 Higher Education Act Promoting High Quality Distance

Education. The 1998 amendments benefit students by providing two administrative initiatives: the Distance Education Demonstration Program and the Learning Anywhere Anytime Partnerships Program. According to Secretary Riley,

> Valuable technologies have been important for the increased opportunities in higher education at a time when college has become more crucial . . . making courses available at convenient locations; reducing time constraints for source-taking; making educational opportunities more affordable and increasing the institutions access to new audiences. This is why a number of changes were integrated into the Higher Education Act, to broaden learning opportunities. (Riley, 1997)

The Distance Education Demonstration Program was developed to increase student access to quality distance education programs. The program offered an opportunity to 15 institutions or consortia for the first 2 years, and then it was extended to 50 institutions the third year. The Demonstration Program expanded student aid eligibility while providing students with the ability to receive a quality distance education program that met the state requirements regarding minimum hours spent in the classroom for an academic year. (To obtain a copy of the Higher Education Act in full you may access the website http://www.aacc.nche.edu/leg/HEA/hea.htm.)

The second program was the Learning Anytime Anywhere Partnerships which authorized competitive grants to organizations that would ensure that high quality learning opportunities were made available to distance education students. The LAAP grant was developed to have an institution and its partner work together to develop and assess model distance education programs and software. Another recent focus for federal legislation was the Digital Millennium Copyright Act of 1998, Title IV: Ephemeral Recordings; Distance Education Exemption for Libraries and Archives. Section 402 of the Copyright Act addressed concern over the development of course materials and how

individuals would be able to maintain ownership while it was posted on the Internet for global access. Congress addressed issues to protect the rights of distance education course developers. The Distance Learning Consortia addressed the (CS/Sb 1288) which provided the state board with the ability to establish a separate nonprofit corporation to determine which work products related to distance education would be eligible to receive license, lease, assign, or otherwise give consent to any person, firm, or corporation for the manufacture or use of products on a royalty basis or as the state board deemed proper. The revenue generated would be used to enhance distance education programs. Legislation also delineated the duties of the Department of Education to allocate all revenues from the States Satellite transponder. The revenues would to be divided equally among the Department of Education, the State Board of Community Colleges, and the State University System (FACC, 1998). Heterick, Mingle and Twigg (1997) argued that the digital revolution has had significant social and economic impacts, many of them difficult to predict. Therefore, the government must explore the impacts of distance education, facilitate public debate, and develop appropriate policy (p. 6).

State Policy

In the 1950s and 1960s regulations were needed to control program duplication, maintain mission distinction, and wisely expend public resources to build new infrastructure. Today, state coordinating agencies maintain those regulatory responsibilities but have also played a more progressive role of covener, issue champion, and change agent (State Higher Education Executive Officers, 1997).

The eternal policy issue in every state remains how to provide students with greater access to postsecondary educational opportunities. To the extent that distance

education offers a potential solution to this and other issues demonstrates how distance education spans both educational and political jurisdictions (Twigg & Heterick, 1997). Each institution maintained different policies for the development and delivery of distance education. The variety of policies among institutions has made it difficult for states to develop continuity among administration and faculty. Therefore, it was pertinent that educational programs become more relevant to societal needs and those needs of administration and faculty. An excellent representation of state-directed actions for distance education could be seen by the Texas Higher Education Board, which developed the following distance learning Master Plan in 1996.

House Bill 85 of the 74th Texas Legislature directed the Coordinating Board to formulate a Distance Learning Master Plan for the development of distance learning and other applications of instructional electronic technology by institutions of higher education. The plan was to address the following:

- coordination and integration of distance learning among higher education institutions and other entities;
- development and acquisition of infrastructure and equipment;
- the establishment of uniform or compatible standards and technologies for distance learning;
- training of faculty and staff;
- appropriate applications and needs assessment;
- funding policies; regulatory policies;
- statutory or regulatory changes desirable to promote distance learning;
- related issues or recommendations the Board considered appropriate.

Changing student characteristics and a changing higher education environment prompted the fresh look at distance learning. The flexibility offered students the opportunity to leverage state investments in faculty and learning resources and demonstrated educational validity as well as the need to efficiently and affordably provide a broad range of educational opportunities throughout the state.

Texas found that when appropriately designed and conscientiously practiced by the provider--and responsibly pursued by the learner--distance learning could be at least as effective as traditional classroom instruction for the delivery and acquisition of many types of knowledge. During 1994-1995, approximately 50,000 students participated in 800 courses offered through instructional telecommunications by 70 of the state's public higher education institutions. These numbers have steadily increased. The continued positive development was dependent upon several key factors:

- Distance learning would be initiated and continued by institutions to the extent justified by specific needs.
- Significant and serious efforts must be made to ensure appropriate access to all services and resource materials necessary to support learning; lacking that commitment, the quality of distance learning is adversely affected and its academic validity and respectability appropriately called into question.
- Faculty and staff must be well trained, provided sufficient resources, allotted the development time to produce quality curricula and instruction, and assured that their efforts would be fairly compensated and evaluated by their institutions. In general, broader faculty participation in distance learning was dependent upon the satisfactory resolution of several key issues: faculty

support for the intellectual validity and academic respectability of distance learning; adequate training and instructional support; the manner in which distance learning effects the number of faculty positions needed within higher education; and compensation and security concerns.

- The broad communication strategies of distance learning (cable and broadcast television, satellite networks, interactive video and others) would be viable. The particular needs being addressed should strongly influence the choice of medium. Statewide coordination of distance learning must balance the need for responsiveness to a rapidly changing education market with the avoidance of unnecessary duplication, misplaced resources, and divisive, excessive competition between state institutions.
- A flexible and responsive "network of networks," envisioned as a functional inter-connection of needs-based networks under dispersed, institutional control has evolved and should be supported. Such a network has encouraged innovation, collaboration, and accessibility while eliminating unnecessary duplication.
- Prudent steps have been taken to ensure that equipment purchases address actual needs, meet performance requirements, and has enabled connection to and use of the evolving state and national infrastructure.

Numerous recommendations were made, including the following:

- TexShare (the innovative program which makes resources of many of the state's university libraries accessible through remote computer networks) has been funded at a level sufficient to expand access to include community

colleges, independent degree-granting institutions, public libraries, and health-related institutions. Enhanced articulation with library resource sharing programs of the Texas Education Agency (Texas Library Connection) and the State Library and Archives Commission (Texas State Electronic Library), have been pursued.

- Institutions, through their respective governance structures, would address with their faculties the effect of distance learning on issues of compensation, course development release time, intellectual property rights, and promotion and tenure.
- The Board would continue to refine and evaluate the effectiveness and efficiency of the distance learning approval process.
- The Board would continue to support collaborative efforts between institutions and other appropriate partners.
- The Board would improve institutional access to distance learning information and support.
- The Board would promote the establishment of an Interagency Advisory Committee on Inter-Institutional Technical Standards to monitor advancing practice and provide assistance and advice to institutions.
- The Legislature would find a means to restore the originally envisioned level of funding to the Telecommunications Infrastructure Fund and a variety of opportunities for higher education to access those funds have been provided.
- Increased access to rural/remote areas and by historically underserved populations, the Legislature would provide incentive funding in addition to

> formula-generated amounts to any public higher education institution which has served those areas and populations via distance learning Regional Organizations (UTA, Center for Distance Education, UTA, 1999).

However, beyond this model technology plan, few states have defined their statewide goals for distance education. In a report from a joint NLII-SHEEO symposium participants at the seminar

> were quick to agree that current state regulatory structures need to undergo a significant transition. Additional several participants warned against shifting state regulatory power to federal government as a alternative option, in large part because the states, not the federal government, has remained the largest source of funding for higher education for now and the foreseeable future. (Heterick, Mingle, & Twigg, 1997, p. 14).

Regional Organizations

Numerous trends have affected technology in today s educational system. To keep up with the demanding needs of technology, policymakers have worked to develop guidelines and regulations to structure the implementation and delivery of distance education. Scarce research exists that examines the influence of public policy on distance education programs at the postsecondary level until quite recently. The ability to move from the vision of providing distance education to the reality of providing programs via telecommunications has been dramatically compromised by the lack of knowledge on the various elements of distance education which have yet to be directly investigated and implemented into public policy. These elements include (a) equity and quality, (b) infrastructure, (c) program development, and (d) faculty and student support. The evaluation of current policy at the regional level has enabled educators to focus on exemplary benchmark programs that have provided for future policy initiatives. The necessity to meet the instructional technologies for distance education has led to calls for

regional organizations to address identified issues. Regional organizations cover policy that may not affect the entire nation but has affected more than one state. The following list includes some of the many regional organizations: accrediting agencies, state-developed consortia s such as the Western Governor s University, the Florida Distance Learning Network, and the Southern Regional Electronic Campus. Accrediting agencies across the nation have developed guidelines and principles for providing quality education. These agencies include Southern Association of Colleges and Schools, New England Association of Colleges and Schools, Western Association of Colleges and schools, and several other agencies in the United States. The Southern Regional Education Board was the nation s first interstate compact for education and has improved the social and economic life of regions. The Southern Regional Electronic Board has focused on distance education and has stressed the inseparable link between colleges and schools, especially in regard to improving both quality and opportunity to students. The Southern Regional Electronic Campus developed a set of Principles of Good Practice that focused on assuring quality courses and programs via distance education. The report provided an analysis of state laws and regulations related to distance learning (SREB 1997/1998). The basic assumptions designed by SREB include the following:

1. The program or course offered electronically was provided by or through an institution that was accredited by a nationally recognized accrediting body and authorized to operate in the state where the program or course originates.

2. The institution s programs and courses holding specialized accreditation meet the same requirements when offered electronically.

3. The institution may be a single institution or a consortium of institutions.

4. The principles would be generally applicable to degree or certificate programs and to courses offered for academic credit.

5. The institution has the responsibility to review educational programs and courses it provides electronically and ensure continued compliance with the principles.

6. The appropriate state agencies or organizations in the state where course or programs were offered would coordinate participation in the Electronic Campus.

7. Institutions that offer programs or for-credit courses would be responsible for satisfying all in-state approval and accreditation requirements before students enroll.

8. Participating states agree to accept the listing on the Electronic Campus as assurance that courses and programs meet the Principles of Good Practice.

9. Institutions would give priority to enrolling students for the Electronic Campus courses and programs that have been qualified residents of the SREB region.

The principles of good practice include curriculum and instruction, institutional context and commitment, evaluation and assessment criteria that must be met by organizations providing these services to students (SREB, 1997/1998). In conjunction with SREB s Principles of Good Practice, other organizations such as Florida Distance Learning Network, New England Association of Schools and College Commission, Western Governor s University, and many other consortiums and accrediting agencies developed policies which addressed the concerns of distance education programs and policies. First and foremost was the discussion of an institution s mission. Mentioned in many of the policies of regional organizations was the need to address if distance education was an area identified within the educational needs of the institution. In most instances distance education provided the expansion (access) of educational opportunities

to students who have been constrained by time and place. Regional and institutional concerns regarding policy have also included program development, cost of infrastructure, student services, faculty training and release time, governance, and the overall quality of program offerings. For example, the New England Association of Schools and Colleges Commission included accreditation policies for the development of distance education as it related to program and instruction.

> An electronically offered degree or certificate program must be coherent and complete. The institution has ensured that the technology used was appropriate to the nature and objectives of the program. The institution ensured the accuracy of materials, programs and courses. Each program of study resulted in learning outcomes appropriate to the degree of certificate awarded. Programs have provided for timely and appropriate interaction between students and faculty. The institution has assessed student capability to succeed in distance education programs and has ensured that accepted students have the background, knowledge, and technical skills needed to undertake the distance education program. The institution has evaluated the program s educational effectiveness, including assessment of student learning outcomes, student retention, and student and faculty satisfaction to ensure comparability to campus-based programs. Students have been provided access to such program evaluation data. (NEASC, 1998)

Through extensive research similarities have been found to exist among the policies developed for distance education. The Florida Distance Learning Network created by the legislature recognized the following distance education policy issues:

1. Increased student access to education;

2. Maximize the use of advanced telecommunications services and their application to provide affordable distance education;

3. Promote interagency cooperation and promote partnerships;

4. Secure available federal or private funds and other resources in support of advanced telecommunications services and distance education; and

5. Coordinate all advanced telecommunications services and distance education resources to maximize return on investment with the goal of creating a financially independent, self-supporting, statewide resource for advanced telecommunications services and distance education (FDLN, 1998).

The Western Governor s University was created in 1995. The organization was primarily concerned with meeting the needs of its citizens and developed policies to address the importance of providing quality distance education programs. In particular, the core activities of the WGU entailed the following:

1. The ability to provide instructional offerings directly to potential students through a central electronic catalog accessible to potential students and an integrated registration and billing process;

2. The ability to provide a means for students to earn competency-based credentials (including degrees up to the master s level and portable vocational/professional certifications) in identified fields of study designed to meet particular regional needs;

3. The ability to provide an appropriate array of support services to students studying at a distance (including library services, advisement and counseling, financial aid, and various types of skills assessment) either electronically or through a network of local centers; and

4. The ability to identify promising opportunities in the region for new program and course would be the development in partnership with educational institutions, corporations and other providers (WGU, 1996).

The United States Distance Learning Association also developed national policy recommendations that encompassed federal, state, and regional policies. With the telecommunication advancements over the past decade, educational institutions have once again anticipated a global change in the world s infrastructure. With the proper implementation of distance education, students have the ability to receive an education anytime, anyplace, and any ware. This new reconstruction of pedagogy has afforded the United State Distance Learning Association with the need to develop policy recommendations that would span the world. They began with the assumption that students learn in a variety of ways. By providing policies that would exceed the barriers and open the doors to learning, educational institutions would be able to develop a student body comprised of a knowledge based workforce. (A copy of the National Policy Recommendations can be accessed at the United States Distance Learning Association website http://www.usdla.com/)

Dependent Variables

The final section of Chapter 2 was separated into four components based on the three factors from a review of literature and believed to affect the equity and quality of distance education programs. The first component was a review of equity and quality as it applied to distance education. The second, third, and fourth components consist of (a) infrastructure, (b) program development, and (c) faculty and student support.

Equity and Quality

Hardy (1988) stated that equity and quality have been the overarching twin goals of American education (p. 26). These goals at least theoretically have applied to all levels of education. The first goal was how to make larger proportions of the people who

have been unsuccessful in school to be more successful and then how to make levels of learning obtained among all students of high quality without changing the affect of the first goal. Today, the questions of equity and quality and their mutual attainment in higher education have been related more directly than ever before to the quality of life and the economic welfare and international competitiveness of the nation, now and for the foreseeable future (Millard, 1991, p. 173). According to Richard Millard (1991), equity has focused on four central issues for national concern:

1. The changing demographics of the nations workforce.
2. The changing nature of the economy. The increased emphasis on telecommunication and technology infrastructure.
3. The increased need for quality education as the nation prepares for increased number of senior citizens and social security issues.
4. The growth of the global economy and the need for an educated workforce. (p. 175)

Equity has involved the ability to provide access to educational opportunities for students while affording for their financial needs to make obtaining an education a reality. According to Stein and Jones (1994),

> the most striking feature in the search for quality in higher education has been the growing involvement of state and federal governments in the debate over quality. Over the past decade many reports, starting with *A Nation at Risk* and ending with *Time for Results: The Governors 1991 Report on Education* have been concerned with excellence, accountability and quality. . . . The issue of quality in education and of how it can be estimated, measured, and improved has become a growing concern around the world over the past decade. (p. 6)

Quality has been a frequently cited concern associated with distance education. Traditional strategies for controlling quality in education include registration, certification, credit v. noncredit, and accreditation of programs and institutions. In today s educational system, quality has become extremely important due to the world

holding higher education responsible for preparing future employees to be internationally competitive and the ability of education to adapt to the accelerated telecommunications and technological revolution (Stein & Jones, 1994, p. 5). Compounding these difficulties in the United States has been the perception by many policymakers and the general public that the quality of higher education has actually declined over the last thirty years or so. (Stein & Jones, 1994 p. 5). Higher education can be characterized by the need for quality instruction. Many higher education leaders hoped that by embracing major new uses of technologies to deliver instruction (such as distance education) they would simultaneously solve economic problems and learning problems (Gilbert, 1995, p. 47). The rules for quality education at a distance were not very different from those, which would work in a classroom. The most important factor for quality distance education was advanced strategic planning. In distance education, strategic planning was not an option but a necessity (Saba, 1999). The key to quality distance education was that course and activities must be student-centered. The ADDIE model for distance education was a general purpose systematic problem-solving analytical model modified for educational technology. The ADDIE represents the planning process in a five-step model:

- Analyze the needs of the learner
- Design instruction based on a students learning needs
- Develop instructional materials
- Implement instructional sessions, and
- Evaluate the results systematically.

It implies that quality distance education

- Must respond to the real needs of learners. As such, distance education must be learner-centered. It includes teaching and learning strategies, and activities that have been based on the analysis of the subject matter at hand
- Must specify teaching and learning strategies and activities in terms of cognitive and behavioral skills the learner needed to acquire in order to master the subject matter

- Must specify teaching and learning strategies and activities in a context familiar to students which maximize its appeal for students to learn
- May be complex, but not complicated to implement
- Provisions for local library access, monitored tests and exams, and access to health-care must be provided
- Should be evaluated in terms of meeting the needs of all of the stakeholders including students, faculty, administrators, employers, and the community at large. (Saba, 1995, p. 1)

These demonstrate that there has been a clear need for state policies that direct how new learning technologies have been integrated to provide a quality education. The ability to assist institutions in the development of quality distance education programs the Accrediting Commission on Policy for the Accreditation of Academic Degree and Certificate Programs offered through distance education developed standards that characterize quality; integrity, and effectiveness that apply to off-campus-based instruction. The institution, therefore, has ensured the integrity of student work and the credibility of the degree certificates and credits it awards. The institution has ensured that programs offered through distance education fulfill the commission s Standards for Accreditation and its policies for accreditation. For higher education to provide quality education built on meeting the standards set forth by the state, it was imperative that the policies developed would be guided by evidence that distance education services were equitable. However, the emphasis at the state level has been more than ever on rationalization, quality review, and assessment of distance education programs. The high demand for economic relevance has led to the introduction of concepts and methods of management borrowed from business and industry. These concepts include CQI (Continuous Quality Improvement) and TQM (Total Quality Management) developed by Edward Deming that focuses on the continuous improvement cycle (Stein & Jones, 1994, p. 7). The political nature of education has emphasized the growing need for quality

programs. The criterion associated with an institution s ability to provide quality distance education programs has been measured by factors of time to degree, students actively enrolled, training and workshops, certification, articulation, accreditation, and administrative support.

The advent of distance education has pushed the limits of current policy and practice related to quality assurance; it may appear to some that distance educators and administrators have not been concerned with quality and might wish to eliminate all attempts at regulation. Yet, both the state and institutions of higher education have moved from the margin to the mainstream. Distance educators have demonstrated that they would be in favor of meaningful measures of quality (that is, learner achievement) that would be applicable across teaching modes and learning activities (Kovel-Jarboe, 1997, p. 23). Millard (1991) argued,

> What has been critical both to equity and to quality is not admissions standards, as valuable as they may be in some cases as guidelines for preparation for college, but the results or outcomes at graduation and beyond. It was this exit or graduation requirements and expectations that count, that determine the context for quality and would be crucial for equity. More importantly outcomes on program quality have been made the determining factor for allocating state and federal appropriations. (p. 193)

Infrastructure

Matthews (1999) discussed the origins of distance education in the United States. One area of concern was the inadequacy of distance education infrastructure available at institutions. According to Lewis, Alexander, and Farris (1997), in many institutions there was limited technological infrastructure to support distance education. Distance education infrastructure encompasses a variety of components. These include hardware, software, and network telecommunications. Hardware considerations for electronically delivered

distance education consist of large mainframe or minicomputer systems. Hardware includes various components that can be considered to provide more effective interactive courses such as the eyecam or digital cameras, which provide videoconferencing or snapshot pictures to be used for communication. Other components include scanners, printers, fax modems, and a variety of other resources. Picciano (1998) identified seven important factors for evaluating and selecting computer hardware:

1. Performance--how well does the hardware work?
2. Compatibility--does the hardware work with other equipment?
3. Modularity/expandability--can the hardware grow as applications grow?
4. Ergonomics--was the hardware designed with people in mind?
5. Software availability--was the software you wish to use currently available?
6. Vendor--what was the reputation of the manufacturer in terms of technical support, maintenance, and industry position?
7. Cost--what would be the costs? (p. 157)

Software application includes the battle of the vendors. In many cases, there have been a variety of software programs all providing the same program but delivering or packaging it in a different way. Software selection process according to Picciano (1998) includes

1. Efficiency--how well were the programs written?
2. Ease of use--how easy was the software to use?
3. Documentation--what were the quality and quantity of the documentation?
4. Hardware requirements--what hardware was needed to run the software?
5. Vendor--what was the reputation of the developer in terms of support, maintenance, and industry position?
6. Cost--how much does it cost? (p. 174)

The telecommunication network includes LANs (Local Area Network), WANS (Wide Area Network), and the use of the Internet to transmit data at a much higher speed.

> A major development in communications related to data transmission will be the conversion of all telephone and other communication systems that use copper and coaxial cable wire (i.e. Cable TV) to fiber optics. Land-based fiber optics systems would be linked with satellite receivers and transmitters to provide rapid long-distance (national, international and beyond) services. The capacity of the fiber

> optics is approximately 30,000 times greater than copper and approximately double that of coaxial cable. (Picciano, 1998, p. 255)

Twigg and Heterick (1997) predicted that the Internet would grow at a compound user growth rate of 62% between 1994 and 2000. Conservative estimates put the number of today s Internet users at around 50 million. Predictions have been for over 1 billion users before the end of the decade; network traffic would exceed telephone traffic. Bandwidth would see the most revolutionary change in the next decade. While computing power was estimated to increase 100 fold between 1990 and 2000, the expansion in bandwidth was anticipated to be between 800 and 1,000 times. The expansion in bandwidth would allow such things as the delivery of multimedia directly to homes (Twigg & Heterick, 1997, p. 2).

The recurring factor among all telecommunication purchases has been the financial constraint. Rothstein and McKnight (1996) in a study for the National Information Infrastructure Initiative, estimated that the cost for putting a microcomputer on the desk of every student and teacher in the country, with high-speed connection to the Internet, would be as much as $145 billion for the first year and $11 billion per year thereafter. With the substantial costs of infrastructure, it has become necessary for institutions to develop policy and guidelines on how to purchase and implement telecommunications infrastructure for their state. The purchase process would include the infusion of capital funds whether it was through state, local, bond, governmental agencies or grants. Due to the continuous expansion of telecommunications infrastructure, funds must be allocated annually to the purchase of hardware, software, network systems (i.e., fiber optics), personnel, repairs/upgrades, supplies, and facilities. One recent trend among higher education has been the assessment of a technology fee. These fees would be used

to help maintain computer systems that would make computing resources available to students (Foster & Hollowell, 1999, p. 16). Other infrastructure funding approaches have included redirecting revenue sources, reallocating resources from operational efficiencies, and the development of strategic alliances with business and industry. Although the funding initiatives have been helpful in the growth of the technological infrastructure on campuses, the development of policies to govern infrastructure purchases would provide higher education institutions not only the ability to purchase what has been needed but also to continue to satisfy the mission and the vision of the institution. The following include a set of assumptions about the digital future, which would affect the environment in which public policy has been created.

- The communications, computing, and information industries have been converging in the digital environment.
- The digital environment would include a convergence of sound, video and data with synchronous and asynchronous communication.
- Digital technology would continue its rapid ascent as analog technologies continue to decline.
- Microprocessor performance has been increasing at a relatively constant rate, doubling approximately every 18 months. This trend has been expected to continue for at least another decade.
- The institution must possess the equipment and technical expertise required for distance education.
- In accordance with the amount of students purchasing computers when entering college, many universities have required that students purchase computers as a prerequisite for entrance.
- Traditional classroom settings have changed but the changes would also be taking place within administration. Administration was beginning to streamline financial aid, admissions, registration, enrollment management and several other administrative procedures. (Twigg & Heterick, 1997, p. 5)
- The institution would ensure access to laboratories, facilities and equipment appropriate to its distance education courses to be considered for accreditation (NEASC, 1997).
- Policy would address the related issues that arise--telecommunications pricing and the cost to access the information infrastructure.
- An important issue for states has been how public utility commissions would address the definitions of universal service, rate of return, and regulation that would support distance learning. (Kovel-Jarboe, 1997, p. 29-30)

The future of the telecommunications infrastructure includes a vast array of global learning communities. These communities would be consistent with today s business, industry, and institutions of higher education, which have turned their focus toward student learning by means of electronically delivered courses. However, our educational system desperately needs policies in order to make informed decisions on the budgeting and purchase process of telecommunications.

Twigg and Heterick (1997) stated,

> We envisage a global learning infrastructure a student-centric virtual, global web of educational services as the foundation for achieving society s learning goals. This contrasts with the bricks-and —mortar, campus-centric university of today; it even goes beyond the paradigm of the virtual university, which remains modeled on individual institutions. The digital global learning infrastructure will encompass a flourishing marketplace of educational services where millions of students interact with a vast array of individual and institutional educational suppliers. It will be delivered through the Internet, by way of broadband cable, XDSL telephony technologies, wireless technologies (both satellite and terrestrial), and other technologies. (p. 4)

In the new competitive environment of electronically delivered distance education courses, the need for clearly defined polices would help to meet the needs of the 21st century workforce. At the technology core of the global learning infrastructure were fully functional modules and an enabling infrastructure, which would

1. Extend access to virtually anyone including old and young, part and full-time;
2. Provide convenient anytime, anywhere, anyhow access to support continuous education;
3. Deliver high quality, self-paced, customized, world class content and pedagogy;
4. Be cost effective, dramatically reducing the two biggest costs of the current system: faculty and physical plant; and
5. Capitalize on market forces to achieve these goals and provide the flexibility to respond to evolving requirements. (Twigg & Heterick, 1997, p. 4-5)

Programs

As the principal providers of higher education services in the United States, state governments have been concerned with the ability to provide greater access to postsecondary opportunities. One solution, which has captured the attention of state policymakers, was making greater use of new technologies, including postsecondary distance education (Epper, 1997, p. 551). As Twigg and Heterick (1997) stated,

> Distance learning technologies, such as the Internet, and to a lesser extent, cable and satellite based systems, has enabled learners to access education whenever and wherever they want. Online experiences have offered educational opportunities to millions of learners previously constrained by time, location, or other factors. Communication, computing and networking technologies have expanded the reach and range of traditional residential colleges and universities and enabled students to synthesize on-campus with online experiences. (p. 3)

Electronically delivered distance education programs offer increased access to students; yet, inherently since the introduction of distance education, there have been few policies which govern the delivery of programs at institutions of higher education. The following section cites areas of program concern related to the development and delivery of electronically delivered distance education programs. In all instances, the delivery of distance education programs challenge the traditional standards of coordination and planning. At traditional institutions, the structure has been of shared governance between faculty, administration, staff, students and governing boards. Corson (1960) defined governance as though the college itself were a government: The process or art with which scholars, students, teachers, administrators, and trustees associated together in a college or university establish and carry out the rules and regulations that minimize conflict, facilitate their collaboration, and preserve essential individual freedom (pp. 12-13). Old traditional standards for instruction would be replaced with new commercial

interests among both traditional postsecondary institutions as well as market-driven on-line institutions. For effective coordination and planning to develop among institutions, state and institutional policies must be instituted to assure that students would receive a quality education. The government must help educational institutions, the private sector, and public understand the need for a new learning vision and the critical role that a digital learning infrastructure would play in the future role of higher education (Heterick et al., 1997, p. 5). Postsecondary institutions have strengthened their own governance system to provide the community with a better sense of their own academic goals. Many states have developed a consortium to address the proper development, implementation, and use of distance education. The legislature in the state of Florida created the Florida Distance Learning Network (1998), which adopted the following mission statement which recognized the need to address distance education:

1. Increase student access to education;
2. Maximize the use of advanced telecommunication services and their application to provide affordable distance education;
3. Promote interagency cooperation and promote partnerships;
4. Secure any available federal or private funds and other resources in support of advanced telecommunications services and distance education;
5. Coordinate all advanced telecommunication services and distance education resources to maximize return on investment with the goal of creating a financially independent, self-supporting, stateside resources for advanced telecommunication services in distance education.

Most states, however, lack a clear mission and a set of goals for the development of electronically delivered courses. In most instances, the goals or mission of the state has been to gradually increase access and infrastructure. What has been needed by most institutions was an aggressive set of goals, which emphasize the direction and focus each institution should take in achieving quality programs. Crow (1999) stated that an on-line institution, like any traditional college or university, must have a clearly articulated educational mission, state government approval to operate and grant degrees, and a governing board with a strong contingent of representatives from the public. It must provide accurate information to students about its programs and must demonstrate fiscal stability, which has included providing externally audited statements. It must offer student s access to resources and services, such as libraries, that were needed for the degree program (p. B5). Another factor important to the delivery of distance education programs was the ability of the government to develop polices that regulate geographic boundaries. Geographic service areas were implicit in much of the policy relating to institutional mission. Policies often were more about differentiation among types of institutions in a specific locale and less about duplication of programs in various parts of the state (Kovel-Jarboe, 1997, p. 28). Matthews (1998) reported that it would be in the state s best interest for institutions to hook up with others to develop new programs and distribute them across a wider geographic area. Matthews also believed that there were two state policy constraints operating against collaboration, residency policies and nonresident tuition. He believed that this discouraged interstate sharing programs (Matthews, 1998). Another way in which states have responded to the growth of distance education programs and courses was to develop new policies governing transfer credit.

Some states implemented so-called transfer curricula to facilitate the adoption of two-plus-two agreements between community colleges and 4-year institutions (Kovel-Jarboe, 1997, p. 29). Policies have involved state-level agreement about the broad transferability of a core of courses, common course numbering schemes, and restriction on which institutions may offer particular (usually introductory) courses (Kovel-Jarboe, 1997, p. 29).

Paramount to the success of distance education has been the ability of institutions to develop transfer programs and partner with other institutions, business, and industry. While the traditions of campus autonomy have often constrained joint program development, the competitive factors brought about global learning networks which have been enough to push institutions to collaborate out of economic necessity. Heterick et al., (1997) suggested that, given the enormous up-front investment needs, states should look to private industry which has access to capital. The trick has been to partner with private providers to do marketing, development, and distribution (Heterick et al., 1997, p. 17).

Institutions that function as intermediaries have been able to broker programs without incurring the costs of developing or owning them. Many regard this as an opportunity to expand the depth, breadth, and quality of programs without the concomitant resource commitment (Heterick et al., 1997, p. 6).

This type of partnership can best be seen throughout the recent collaboration and cooperation among community college institutions partnering with one another and with business and industry. One example of a collaborative partnership among community colleges was the CEC (Colorado Electronic Campus) which developed the Internet-based associate degree in business administration. It involved over 14 campuses, which shared

cost and infrastructure development. Another organization, the Western Governor s University offers distance learning courses from dozens of colleges, universities and corporations across the United States.

The variety of possibilities for program development has become increasingly important among institutions planning to offer distance education. The ability not only to provide programs that meet the institutional and state standards but also those of accrediting agencies is critical to the quality of the program offered. Institutions that offer electronically delivered programs should be prepared to address the following accrediting agency provisions. According to the North Eastern Association of Schools and Colleges, the following criteria include what schools must meet to be accredited.

Distance education programming must be consistent with the institutions mission and purpose. The institution s long-range planning, budgeting, and policy development processes must reflect the faculty staffing, equipment, and other resources essential to the viability and effectiveness of the distance education program. The responsibility for distance education activities has been integral to and vested in the overall organization and governance of the institution with specific attention paid to the impact of distance education on the institution. The institution faculty would assume responsibility for and exercises oversight over distance education ensuring both the rigor of the program and the quality of instruction. Should distance education be offered through a contractual relationship, the institution must retain the responsibility for the academic elements of the activity. Review and approval process would ensure the appropriateness of the technology being used to meet the program objectives (NEASC, 1997). Much progress has been made on the accreditation front as a result of the Western Governors initiative.

A joint committee with representation from multiple regional accrediting bodies has currently reviewed plans for WGU. Such a body (or new entity) could easily extend its work to other institutions (Heterick et al., 1997, p. 15). As electronically delivered distance education continued to expand and policies were developed for providing on-line course offerings, so did the ability to accredit postsecondary institutions. Perley and Tanguay (1999) stated, We may need to re-examine the fundamental meaning of accreditation and the standards applied by accrediting agencies to ensure that what has passed for higher education today and tomorrow really was higher education (p. B5). Creating the infrastructure to develop and support virtual work environments for faculty, staff, and students has been an expensive and complicated undertaking. Along with specialized hardware and software, skilled technological and administrative personnel would be needed to build and maintain these systems (DiPetta, 1998, p. 61). Funding issues which have been integral to the development and delivery of electronic distance education courses included student tuition, in state v. out-of-state tuition costs, technology fees, financial aid, and traditional funding formulas. Various efforts to make community colleges more efficient have been undertaken in order to increase student learning and, at the same time, maintain cost-effectiveness (Cohen & Brawer, 1996, p. 134).

In good budget years, legislators tag on technology funds to base budget appropriations aimed at a potpourri of statewide and campus infrastructure initiatives. Seldom have these funds been a part of a comprehensive plan, nor has there been much agreement as to the appropriate sources of revenue for different types of expenditures. Technology, like other hot button issues, have been treated as a vehicle for garnering

greater financial support to the system (Heterick et al., 1997, p. 17). Heterick et al. (1997) identified that a significant barrier to change was state higher education funding mechanisms. States have funded public higher education institutions through a system of formulas, incremental budgets, and shared costs, a system which has remained relatively stable for several decades. Funding formulas that distribute dollars to institutions and students can provide powerful incentives to include student, faculty, and institutional commitment to change, but current enrollment-based full-time equivalent (FTE) funding formulas have been based on a time-on-task concept rather than a learning achievement or outcome model. FTE funding has provided little or no incentive to improve academic quality. What was needed were incentives that emphasized and rewarded outcomes regardless of how they were achieved (Heterick et al., 1997, p. 8).

American higher education in the last decade of the 20th century has faced escalating costs, uneven demographics, faltering revenues, and an erosion of public confidence--not of its fundamental importance, but of its institutional integrity and stewardship. The failure to surmount these challenges has led to losses that would have serious and irrevocable: losses in the quality of faculty and campus infrastructure, losses in access and in the social and economic mobility that many have come to expect from American higher education, and losses to the economic vitality from a higher education system no longer serving the needs either for a trained workforce or a competitive technology (Johnstone, 1992). The responsibility for providing equitable and quality electronically delivered distance education programs has relied on the overall organization of federal, state, and institutional governance and its ability to provide policies which would meet and exceed the expectations of economic growth.

Faculty Support

Included among the many concerns for distance education has been the need to provide both faculty and student support. In general, broader faculty participation in distance learning has depended upon the satisfactory resolution of several key issues: faculty support for the intellectual validity and academic respectability of distance learning, adequate training and instructional support; the manner in which distance learning affects the number of faculty positions needed within higher education, and compensation and security concerns. Institutional policies and procedures dealing with these concerns--including release time for course development, workload calculations, royalties and copyright, compensation for teaching, and the evaluation of distance learning activities for the purposes of promotion and tenure considerations--vary considerably. Some institutions have well developed policies and procedures, while others have minimal guidelines or no formal policies whatsoever (Texas State Guidelines, 1996, p. 1). Many institutions have found it necessary to address both faculty and student support policies. These included identifying deficiencies and strengths to providing faculty and student support for the development and delivery of distance education (Astin, 1986, p. 17). Capitalizing on higher education s major investment in technology required carefully planned professional development support for faculty. As stated previously, full utilization of new technologies required professors to develop the skills and assume new functions. Hence, institutions had to keep their mainstream faculty in mind as they devised processional development policies and programs (Baldwin, 1998, p. 16). It was critical that the mainstream faculty have access to training, time to learn and work with the technology, and adequate support (technological, pedagogical, and

scholarly) when it was needed (Baldwin, 1998, p. 16). The ability to provide faculty support for course development was dependent upon the support of administration, well trained faculty and staff in the field of technology, and the ability to provide sufficient resources to faculty developing courses. At institutions all across the nation there have been a variety of training programs in place. These programs have depended upon the hardware and software available at each institution. Two software programs available for the development of on-line courses include Blackboard and WebCT. Each of these software programs provides the software infrastructure necessary to develop on-line courses. The training programs offered often consist of training faculty to convert their current course offerings into on-line curriculum that would be used within these two infrastructures. Faculty training has included e-mail, discussion forums, webpage development, pedagogical/methodology considerations, and the ability of the faculty member to develop an on-line course that was effective for student learning. Training faculty to develop proper on-line curriculum has included the ability to provide adequate resources for faculty. These may include technology tutorials, books, indexes, websites, periodicals, and all materials that would aid in the development of on-line delivery. Some institutions have taken a proactive approach to on-line course development by providing faculty with time to technically train but also by providing time to discuss the do s and don ts of on-line course development. At Santa Fe Community College located in Florida, faculty members were encouraged to participate in brown bag discussions. These consisted of faculty sharing brown bag lunches as well as their ideas on course development.

Other important policy considerations included how to compensate faculty for distance education training and compensation through incentive pay or reduced course loads (release time) for faculty training and teaching on-line courses (Kovel-Jarboe, 1997, p. 27). According to the administration in Texas, faculty must be provided with faculty release time to be able to produce quality curricula and instruction and the assurance that their efforts would be fairly compensated and evaluated by their institutions. The faculty compensation program offered by Santa Fe Community College can characterize an example of compensation. The compensation offered to faculty has included pay for three credit hours for taking the faculty technology training course which teaches faculty how to develop on-line distance education courses. The compensation for course training was only a one-time offering, and faculty only received the three credit hours the first time for training regardless of how long they continued to train. Next, a faculty member was given three credit hours for development of a course. Finally, a faculty member received six credit hours for the first time a new course was offered to students, and then each time thereafter a faculty member only received the standard three credit hours for its offering. However, the degree to which each of these stipulations was reflected in current practice varied widely from institution to institution.

In addition to faculty support, course development, and compensation, institutions must concern themselves with various copyright issues which could lead to publishing the courseware outside of the institution. On October 28, 1998, H.R. 2281, the Digital Millennium Copyright Act, was enacted into law. Section 403 required that the Copyright Office consult with representatives of copyright owners, nonprofit education institutions, and nonprofit libraries and archives and thereafter submit to Congress recommendations

on how to promote distance education through digital technologies, including interactive digital networks, while maintaining an appropriate balance between the rights of copyright owners and the interests of users (U.S. Copyright Office, 1998, p.1). At many institutions, once faculty members create the material for each course, by law they have ownership to the material. However, since many institutions provide both compensation and the materials for the development and implementation of courseware, the institution becomes the owner of the materials developed. Therefore, should the faculty member leave the institution, the institution has the rights to the material created and may have another faculty member teach the course.

Student Support

The impact of distance education on higher education seems clear; students have received increasing support and growth opportunities in the educational environment. Within community colleges, distance education has opened a window of opportunity for student support services by integrating technology-based instruction and management. Student support policies included the entire range of institutional programs and resources that support student learning and personal development. Access to student support services has been shown to be a critical factor in learner success (Tinto, 1993). Distance education institutions seek to reintegrate the structure of teaching by their ability to provide a complete learning package that parallels the provision of conventional education institutions from preenrollment counseling to examination and accreditation (Keegan, 1990, p. 112).

Policies at many institutions included a distance education program s ability to parallel on-campus services. Many institutions that provide distance education must

develop models that would support student learning and achievement. Student support encompasses a variety of programs, some of which include libraries, orientation, financial aid, technical support, advising, and counseling. Beside learning packages, distance institutions attempted to provide as rich a structure of student support services as was possible to aid the student during the period of enrollment and study (Keegan, 1990, p. 112). By integrating these activities into the distance education program, it has supported student academic achievement.

Hisle (1990) indicated that community colleges lead the way in implementing support for distance education. Both extension and distance education depend on learning resource centers to provide both faculty and student services such as books, indexes, periodicals, audiovisual materials, and software. Most accrediting commissions now expect colleges to provide comparable support services to students at off-campus locations in distance education (Hisle, 1990).

There are many models for providing student support services. Austin Community College utilized a program development model of distance education services that encompassed many strategies used by community colleges and intended to be used as a guide to develop such programs and services. The model involved six components: (a) leadership and commitment; (b) familiarizing the learning resources staff with distance education courses, programs, design and delivery; (c) familiarizing and convincing faculty and students in distance education of the value of knowing how to access information and services; (d) providing distance education access to services through main campus libraries, branch campus learning resource centers, and public and high school libraries; (e) using libraries and extension centers as delivery-pickup points

for materials; and (f) a systematizing, ongoing evaluation incorporating incoming data from faculty and students (Hisle, 1990).

By focusing on the components in the Austin Community College model, institutions that provided distance education have been able to integrate some of the key characteristics of support and guidance to students enrolled in distance education courses. To maintain quality distance education programs, institutions of higher education have developed policy that provides access to the range of student services appropriate to support learning. The North Eastern Association of Schools and Colleges stated that an institution must provide adequate access to the range of student services appropriate to support the distance education programs, including financial aid, academic advising, delivery of course materials, placement, and counseling. The institution must also provide an adequate means for resolving student complaints. The institution must demonstrate commitment to ongoing support both financial and technical through the continuation of the program for a period sufficient to enable students to complete a degree of certificate (NEASC, 1997, p. 1)

Therefore, state policies were devised to encourage interinstitutional federal and regional organizations to support the provisions of distance education through the accessibility to student financial aid. The Reauthorization of the Higher Education Act, afforded for the dissemination of funding for students participating in distance education courses. The United States Senate approved the Higher Education Reauthorization Act (HR-6) which included a number of initiatives designed to increase access to higher education. One of the key components of the Act was to expand student aid eligibility for distance education learning institutions (Legislative Distance Education Report, 1999).

With increased support for student services it has become imperative that the policies developed meet the increased need of students participation in distance education programs. For a successful statewide program, administrators, faculty, and staff must work as a team to develop policies that will promote student learning.

As with any new program, there are both advantages and disadvantages to offering distance education. Matthews (1999) argued that there have been several benefits to offering distance education.

> The benefits to the student include increased access to higher education (particularly for nontraditional student), flexible scheduling of personal time, convenient location, individualized attention by the instructor, less travel, and increased time to think about, and respond to email or discussion boards), and question posed by the instructor. Institutions also reap benefits from offering distance education. It has increased enrollment, attracted new teaching staff, reduced the need to build and maintain universities and community colleges, campuses and buildings, offered a new level of communication with students, required the university to keep abreast of new technology, and signals to the public that the institution was forward thinking and technologically advanced. (Matthews, 1999, p. 60)

Some of the disadvantages addressed include cost of infrastructure, cost of software and educational materials, cost to student/ineligibility for student financial aid, accessibility to student support services, course delivery (maintaining close relations to students), spontaneous conversation between student and faculty, copyright issues, and faculty compensation issues. These factors illustrated the constraints to offering on-line distance education courses. Nevertheless, today s higher education system has been developing and expanding access to programs through the use of distance education. As we enter the new millennium, the need for programs to meet students needs that are time bound or place bound as well as being unable to leave family and work

responsibilities have dictated the need for policies to address distance education as a mode for fostering lifelong learning.

CHAPTER 3
METHODOLOGY

Introduction

Included in this chapter is a description of the methods and procedures of the study that was conducted to analyze the differences between those states that have distance education policy and those that do not, exploring consistencies, similarities, and differences upon which policymakers can generate new state and institutional policies which have helped to build equitable and efficient distance education programs. The principal objective of this research study was to better understand the guiding principles that help determine the structure of distance education at community colleges by examining state policies currently in place. The nature of this study required the identification of current polices and issues affecting distance education.

The methodology consisted of selection of factors, population, development of survey instrument, collection of data and an analysis of data. The purpose and the statement of the problem are presented.

Purpose

The purpose of this study was to identify the consistencies, similarities, and differences between states that have distance education policies and those that do not. The intent was to identify areas of common ground upon which states can build new policy frameworks for the development and delivery of distance education at the postsecondary level. The distance education survey was undertaken with support from

the Community College Business Officers and the National Council of State Directors of Community Colleges. Each of these organizations identified the critical issues surrounding distance education policy at the state level. By identifying the consistencies, similarities, and differences of distance education policy at the state level, it was hoped that future policy would provide a basis upon which higher education would be able to develop and implement quality distance education programs. Research questions to be addressed were as follows:

1. To what extent do infrastructure policies differ when compared by the states that have distance education policies and those that do not?

2. To what extent do program development policies differ when compared by the states that have distance education policies and those that do not?

3. To what extent does a relationship exist among the states that have distance education policies and those that do not to the responses on faculty and student support?

4. To what extent does a relationship exist among the states that have distance education policies and those that do not to the responses on the barriers which have kept postsecondary institutions from expanding distance education programs?

Selection of Factors

The project began with the selection of factors. State directors and community college leaders attended a conference seminar on issues and trends affecting community college economic growth and funding. During the meeting distance education was determined as a critical factor affecting the economic development among higher education institutions. From a review of literature the following criteria helped to determine the variables to be addressed in the questionnaire: (a) history of distance education, (b) current policies and trends in distance education, (c) study conducted by

the Department of Education, and (d) study conducted by the State Higher Education Executive Officers on State Policies for Distance Education.

Population

All 53 community college state directors were surveyed, each representing their state, or district.

Survey Instrument

The content of the survey was developed through a review of the literature and an in-depth analysis of distance education policy and programs. Key variables were determined to assess distance education initiatives and current policy. Three policy areas were determined to have a major effect on the ability to provide equitable and quality distance education programs. These included infrastructure, program development, and faculty and student support. Following the development of the survey instrument, a meeting was held with the education commission of the states and a select group of community college state directors to perceive if the data were applicable and easy to process. Survey questions 1 through 5 related to state financial data. Question 6 was a scale relating to the various state s investment options, a 7-point scale was provided with the following responses: significant decrease, decrease, slight decrease, increase, significant increase, and no opinion. Question 7 was a ranking of what state directors found to be the most important spending category (1-3). Questions 8 through 12 was a scale provided with the following responses: not important (1) to very important (5). Question 13 was a scale provided with the following responses: not at all, minor extent, moderate extent, and major extent. For each group of questions, respondents were asked to check the response that best described the importance of the policy related to distance education. Numerical weightings were assigned to the options. Revisions were made to

the survey. The survey was then sent to a distance education expert at the State Higher Education Executive Offices. The survey was reviewed and critiqued for the applicability and design of the survey. A survey was then sent out to a select group of business officers and state directors to determine if the questions were applicable and easy to interpret and answer. All necessary changes were made to the survey (see Appendix A for instrument). An accompanying cover letter was included from Christyne Hamilton, President of the Community College Business Officers; Don Puyear, Chair of the National Council of State Directors, and Dale F. Campbell, Director of the Institute for Higher Education at the University of Florida, to ask for cooperation and to instruct participants on the return process (see Appendix B for cover letter).

The survey instrument addressed policy issues, financial data, current financing practices, current initiatives at the forefront of distance education program development, and the personal perspectives of participants as it related to the development of distance education policy. Also requested was the submission of distance education policy guidelines currently implemented.

Data Collection

The survey was sent out to 53 community college state directors. The survey was mailed with stamped return envelopes and a cover letter explaining the purpose of the survey. A second letter was sent out using an electronic database for follow up. The return rate was 48%.

Data Analysis

The data were recorded into Microsoft Excel, and the statewide data were analyzed using StatView. The data gathered from the survey was collapsed into the three

areas identified as dependent variables, (e.g. infrastructure, program development and faculty and student support). Descriptive statistics were computed for each survey item. These included frequency distributions, means, mode, percentages, and standard deviations. The dependent variables consisted of infrastructure, program development, faculty, and student support. The independent variables used to classify the state respondents were based upon those states that have policy versus those that do not.

The four research questions were addressed independently using multiple one-way analysis of variance. Analysis of variance studied the effect of independent variables on a continuous dependent variable (SAS, 1999, p. 73). The analysis of variance determines the significance of the effects in a model by calculating how much of the variability in the dependent variable can be explained by the effect in question. The result is an F-statistic that can be used to test the importance of the effect in question (SAS, 1999, p. 73). The statistical design placed subjects into groups based on the independent variable of policy versus no policy amongst state level distance education programs. The study compared the means of the two groups based upon the dependent variables of infrastructure, program development, and faculty and student support to determine if the differences between them represent a systematic effect. In classic inferential statistics if the F-value was large enough, then the null hypotheses was rejected with confidence that the researcher was correct in concluding that at least two means are different. However, assessing the statistical significance of policy research finding need not be bound by the traditional .05 alpha level. Since the subject matter of policy research is usually complex and poorly understood, findings may be statistically significant even if a .05 level of significance is not obtained. In certain studies, findings that hold in 85% or 90% of the

cases may be sufficiently robust for policy purposes (Majchrzak, 1987, p. 69). Another important issue to policy research is that researchers must assess the political significance of the findings to determine which factors they should emphasize when making recommendations.

The null hypothesis stated that there are no differences between the values of the dependent variable that can be explained by the differences in the independent variable of the model (SAS, 1999, p. 74). A null hypothesis was developed for each of the four identified areas addressed in the review of literature and criteria identified as critical issues to the development and implementation of distance education policy. The hypothesis tests were used to determine if there were any differences. The nulls were used to test for differences in responses to each of the following dependent variables of infrastructure: program development and faculty and student support. The dependent variables were analyzed using the one-way analysis of variance with the independent variables of policy versus no policy. The statistical data were used to determine the consistencies, similarities, and differences in policy for distance education to identify areas of common ground upon which states can build new policy frameworks for the development and delivery of distance education at the postsecondary level.

Hypotheses

1. There is no significant difference in the measures of infrastructure for those states that have policies and those that do not.

2. There is no significant difference in the measures of program development for those states that have policies and those that do not.

3. There is no significant difference in the measures of faculty and student support for those states that have policies and those that do not.

4. There is no significant difference in the barriers which have kept postsecondary institutions from expanding distance education programs for those states that have policies and those that do not.

Each hypothesis was analyzed to determine the level of significant difference. To confirm that the analysis of variance was conducted properly, appropriate post hoc testing was preformed.

Following the quantitative analysis of statewide data, a policy analysis was conducted to address the nine states that have policies currently in place. The data were gathered and analyzed to examine the similarities, consistencies, and differences between the policies among the states. The data were gathered through the submission of the policy survey. Each state that had distance education policies was asked to submit a current copy of their state s policies and procedures as they pertain to the development and delivery of distance education. Three states did not return policies with their survey and received an e-mail message and phone call to verify its return and submission.

CHAPTER 4
PRESENTATION OF THE DATA

The following is a report of the analysis of data collected concerning distance education policies. The chapter is separated into three sections: (a) an analysis of descriptive data, (b) an analysis of the quantitative data, and (c) an analysis of policy issues.

Descriptive Data Analysis

One purpose of the research was to determine which states have distance education policies already in use. The second purpose of the study was to identify which policy criterion was affecting the development of distance education policy and to examine the consistencies, similarities, and differences among states that have distance education policies and those that do not. In addition, the purpose was to formulate recommendations for the development of effective state policy to develop and implement distance education programs at the postsecondary level. The results of the study were determined by utilizing StatView, a statistical software program which was created by the SAS Institute Inc.

Findings from the Survey Instrument

The first section contains the overall descriptive analysis of data, the similarities and variations among states as a result of the research analysis. The second section contains the statistical analysis of the null hypothesis. The final section includes the descriptive statistics for each state currently utilizing distance education policies.

All 53 community college state directors were surveyed, each representing his/her state or district. The return rate was 48%. The purpose of the survey used in this study was to collect data from each state director relating to distance education policy. The instrument was also used to determine which states currently had distance education policies in place. The instrument was comprised of questions that would determine which states have effective and efficient distance education policies. Items 2 through 7 dealt with distance education funding. Data were gathered from respondents on 46 characteristics pertaining to the three dependent variables of infrastructure, program development, and faculty and student support. The responses were based on a 5-point scale. The choices ranged from (1) not important to (5) very important. Item 13 gathered data from the respondents as to the key barriers, which have kept distance education programs from expanding. The responses were calculated using a 4-point scale. The choices included not at all, minor extent, moderate extent, and major extent. A numerical rating of (1) not at all to (4) major extent was used to reflect the respondent s agreement or disagreement with the factors affecting the development and delivery of distance education. Data were analyzed using StatView. Multiple one-way analysis of variance was used to determine the strength of the association between the independent variables of policy versus no policy and dependent variables of infrastructure, program development, and faculty and student support. A summary of the statistics reflecting the state director s responses are reported followed by a table reflecting the analysis of data.

Description of Response Rate

A total of 53 surveys were mailed to community college state director s. Item 1 asked the respondent to indicate if distance education policies were in place at the state level. A total of 24 (48%) of the surveys were returned. Out of the 24 surveys returned, 39% indicated that their states had distance education policies.

Analysis of Responses

The data gathered from the survey was collapsed into the three areas identified as dependent variables, (e.g. infrastructure, program development and faculty and student support). The following includes a breakdown of how the dependent variables were scored. Items 2 and 5 addressed distance education budgeting issues. Each state was asked to fill out the percentage of the distance education budget that was allocated to specific components related to the development and delivery of distance education; less than 1% (.09%) of the states could respond. In most instances each state responded that there was no separate line item for distance education. At this time distance education is part of the general technology fund.

Item 4 referred to legislative funding initiatives that would support the development and delivery of distance education technology. Among the 48% of respondents to the survey, (52% responded that their state received legislative funding initiatives to support distance education policy. From the states that received legislative funding the following mechanisms were used to distribute the funds to each state. A majority of the states distributed the funds through competitive grants, and many of the funds were earmarked for specific institutions or projects. Some states distributed the

funds directly to the support of local and regional consortia. Other forms of fund distribution included formula distribution and matching funds.

Table 4-1 reports a listing of the states that responded to the survey instrument, indicating if they had distance education policies and states that received legislative funding initiatives to support distance education.

Table 4-1

Analysis of Item 1 and 4 Responses

States that have distance education policy			
Florida*	North Carolina	Texas	Oklahoma
Hawaii*	Montana	Nevada	Maryland
Virginia*			
States that do not have distance education policy			
Georgia*	Mississippi*	South Carolina*	West Virginia
Arizona	Colorado	Utah*	Wyoming*
Massachusetts	Iowa*	Kansas	Michigan
Missouri*	Ohio*	Wisconsin*	

* Indicates states that had legislative-funding initiatives passed to support distance education.

Item 3 was an open—ended question which asked respondents to list the various sources of funding electronically delivered distance education. Table 4-2 reports a summary of the percentage breakdown on the various sources of funding. The largest funding source (36%) was by state appropriations which included the monies appropriated by the state legislature for the financing of higher education. Grants (22%) were a large component in the funding of special programs and courses. Tuition and fees (19%) included an assessment against student s payment of courses, laboratory fees, technology fees, and equipment use. Special funds (15%) included funds earmarked for

special projects local or regional consortia. Both local bonds/taxes and business/industry derived less than 1% (.05%).

Table 4-2

Analysis of Item 3 Responses

Funding Source	Percentage
State Appropriations	36%
Grants	22%
Local Bonds/Taxes	1%
Tuition & Fees	19%
Special Funds	15%
Business & Industry	.05%

Table 4-3 reports on Item 6 which referred to how far each state was willing to invest in distance education in the future. Responses were calculated using a 7-point scale. The choices were significant decrease, decrease, slight decrease, slight increase, increase, significant increase and no opinion. It was noted that 22 (92%) of the states were willing to increase their state investment in the development of distance education programs. It was found that the significant increase level of state support to invest in distance education programs were reflected in an increased level of support for investing in (a) the purchase and development of technological infrastructure, (b) faculty and student support, and (c) program development. Of the 24 state respondents, 79% considered statewide technology infrastructure as the most important technological function influencing the future of distance education policy. Whereas 46% noted that geographic service areas is the least important function facing the development of distance education policy. State director s (56%) found that among the top three critical technological functions to influence the development of distance education policy, the

development of funding policies and the development of partnerships and collaborations with business and industry were of critical importance to the growth and development of distance education policies.

Table 4-3

Analysis of Item 6 Responses

State	Significant Decrease	Decrease	Slight Decrease	Slight Increase	Increase	Significant Increase
FL					✓	
GA					✓	
NC					✓	
OK						✓
MS						✓
SC						✓
TX					✓	
VA						✓
WV	*					
AZ						✓
CO						✓
HI				✓		
MT					✓	
NV	✓					
UT				✓		
WY					✓	
IA				✓		
KS				✓		
MI				✓		
MO				✓		
OH					✓	
WI					✓	
MD				✓		
MA				✓		

*No Opinion

Item 7 had respondents rank which spending category their state considered to be the most important for the development and delivery of distance education. Infrastructure, which included telecommunication networks, hardware, and software, received 54% of the reporting states vote that it was the highest level of state needs.

Faculty and student support, which includes faculty training, development, technology support and student orientation, counseling, and technology support, received 42% of the reporting states vote that it was the second highest level of state need. The final criterion, program development, which included course development, student financial aid, and marketing, received 65% of the reporting states support for being the third highest level of state need.

Table 4-4 reports a summary of the 46 characteristics for those states that had distance education policy listed in items 8-12. Reported was a number to associate with characteristic, descriptor of the characteristic followed by the number of respondents (n), overall mean scores, and standard deviations for each of the 46 characteristics in questions 8-12. Note that Table 4-5 includes an analysis of the same characteristics as Table 4-4 except that it refers to those states that indicated that they do not have distance education policies.

Item 8 referred to each agency s importance in the development and support to the development of electronically delivered distance education. Responses to Characteristic 4 from both states that have distance education policies and those that do not demonstrated that local consortia were the most important agencies to aid in the development of distance education programs. The mean score was 4.444 for states with policies, and 4.000 for those states without distance education policies. Fifty-six percent (56%) of those states with distance education policies and 47% of states without policies reported that the most important agency in the development of electronically delivered distance education was with the use of local consortia. Item 9 referred to which technological function was the most important to the development of distance education

policy. Characteristics 10 (Coordination & Planning) and 15 (Partnerships & Collaboration) for states that have policies were considered to be the most important function influencing the development of distance education policy. The mean score was 4.778 and 4.778, respectively. Characteristic 7 (Statewide Infrastructure) for states without policies was considered to be the most important function influencing the development of distance education policy. The mean score was 4.800.

Item 10 referred to the future need for education in the 21st century to obtain a job. Those states with policies believed that the most important characteristics to meeting the needs of the 21st century workforce was to invest in technology (Mean Score 4.444) and investing in faculty development (Mean Score 4.444), while states without policies believed that the most important characteristic was the development of partnerships (Mean Score 4.600).

Item 11 referred to the initiatives the state would support to increase access to courses offered via electronically delivered distance education. Both states with policies and those without policies agreed that the most important characteristic (24) was the development of articulation agreements. The mean score, respectively, was 4.556 and 4.667. A total of 96% of respondents were in agreement that the development of articulation agreements was the most important (important, very important) characteristic to the support and cope with the increased access demands for courses offered online.

Item 12 referred to the ability of each state to receive a return on investment for supporting funding initiatives that would support the delivery of electronically delivered distance education. The following respondents (92%) were in agreement that these two

funding initiatives were the most important. Both states with policy and those without agreed that the most important (important, very important) funding initiatives included the state s ability to fund technology (characteristic 38) and faculty training and

Table 4-4

Analysis of (46) Characteristics Responses of States with Policy

Number	Characteristic	N	Overall Mean	Standard Deviation
1	Distance Education Demonstration Program	9	1.889	1.453
2	Learning Anytime Anywhere Partnership	9	2.889	1.269
3	Regional Consortia	9	3.778	1.093
4	Local Consortia	9	4.444	.726
5	Accrediting Agencies	9	4.111	.928
6	National Associations	9	3.000	1.323
7	Statewide Infrastructure	9	4.667	.707
8	Campus Infrastructure	9	4.667	.707
9	Library Issues	9	4.444	.726
10	Overall Coordination/Planning	9	4.778	.441
11	Role & Mission	9	4.000	1.000
12	Geographic Service Areas	9	2.111	1.453
13	Program Development	9	4.333	.707
14	Funding Policies	9	4.333	.866
15	Partnerships/Collaborations	9	4.778	.441
16	Faculty/Curriculum Development	9	4.556	.527
17	Student Services	9	4.444	.726
18	Invest in Career Training	9	4.111	1.054
19	Invest in Technology	9	4.444	.527
20	Expand Access to Degrees	9	4.111	.601
21	Develop Partnerships	9	4.111	.928
22	Invest in Faculty Development	9	4.444	.726
23	No Additional Requirements	9	.889	1.269
24	Articulation Agreement	9	4.556	.527

25	Transfer (2+2)	9	4.333	.707
26	Geographic Restrictions	9	1.222	.441
27	Course Duplication	9	3.000	1.323
28	Learner Technology Fees	9	3.889	.928
29	Provide Faculty Incentive Pay	9	3.556	1.130

Table 4-4--continued.

30	Faculty Compensation	9	3.667	1.225
31	Faculty Release Time	9	3.778	1.202
32	Faculty Training	9	4.444	.726
33	Faculty Technology Support	9	4.333	.707
34	Student Financial Aid	9	3.444	1.333
35	Student Orientation	9	3.889	1.269
36	Student Advising/Counseling	9	4.333	.707
37	Student Technical Support	9	4.222	.667
38	Invest in Technology	9	4.556	.726
39	Invest in Networks	9	4.444	1.014
40	Invest in Hardware	9	4.222	1.202
41	Invest in Software	9	4.000	1.118
42	Expand Capital Infrastructure	9	3.333	1.000
43	Increase Student Financial Aid	9	3.000	1.000
44	Increase Operating Support	9	4.333	1.118
45	Improve Faculty & Staff Salaries	9	3.333	1.000
46	Invest in Faculty Training	9	4.667	.500

development (characteristic 46). The mean score for those states with policies was technology, 4.556, and faculty training and development, 4.667. The mean score for those states without policies was technology , 4.533, and faculty training and development, 4.533.

Table 4-5 reports a summary of the 46 characteristics for those states that do not have distance education policy listed in items 8-12. Reported was a number to associate with the characteristic, descriptor of the characteristic followed by the number of respondents (n), overall mean scores, and standard deviations for each of the 46 characteristics in questions 8-12.

In item 13, state respondents were asked to determine what factors have kept their states from expanding electronically delivered distance education programs. Table 4-6 reports a summary of the 15 characteristics for those states that have distance education policy listed in item 13. Responses were calculated using a 4-point scale. The choices were not at all, minor extent, moderate extent, and major extent. Numerical weightings of 1-not at all to 4-major extent were used to reflect the extent that the factor was a barrier. Reported was a number to associate with the characteristic, descriptor of the characteristic, followed by the number of respondents (n), overall mean scores, and standard deviations for each of the 15 characteristics in item 13. Ninety-one percent (91%) of all 24 respondents from both the states that have policies and those that do not, agreed that the cost of program development was the largest barrier to the development of electronically-delivered distance education. Table 4-6 reports a summary of the 15 characteristics for those states that do not have distance education policy listed in item 13.

Table 4-5

Analysis of Characteristic Measures of States without Policy

Number	Characteristic	N	Overall Mean	Standard Deviation
1	Distance Education Demonstration Program	15	2.200	1.474
2	Learning Anytime Anywhere Partnership	15	2.400	1.724
3	Regional Consortia	15	3.533	1.246
4	Local Consortia	15	4.000	1.254
5	Accrediting Agencies	15	3.267	1.163
6	National Associations	15	3.267	1.534
7	Statewide Infrastructure	15	4.800	.414
8	Campus Infrastructure	15	4.200	1.014
9	Library Issues	15	3.733	.961
10	Overall Coordination/Planning	15	4.200	.775
11	Role & Mission	15	3.933	.961
12	Geographic Service Areas	15	3.267	1.223
13	Program Development	15	4.333	.724
14	Funding Policies	15	4.533	.640
15	Partnerships/Collaborations	15	4.467	.640
16	Faculty/Curriculum Development	15	4.533	.640
17	Student Services	15	4.400	.737
18	Invest in Career Training	15	4.467	.743
19	Invest in Technology	15	4.333	.816
20	Expand Access to Degrees	15	4.400	.737
21	Develop Partnerships	15	4.600	.737
22	Invest in Faculty Development	15	4.400	.828
23	No Additional Requirements	15	.800	1.320
24	Articulation Agreement	15	4.667	.617
25	Transfer (2+2)	15	4.333	1.047
26	Geographic Restrictions	15	2.400	1.298
27	Course Duplication	15	3.067	1.223
28	Learner Technology Fees	15	3.467	.990
29	Provide Faculty Incentive Pay	15	3.800	.775

Table 4-5--continued.

30	Faculty Compensation	15	3.933	.884
31	Faculty Release Time	15	4.000	.845
32	Faculty Training	15	4.533	.743
33	Faculty Technology Support	15	4.467	.743
34	Student Financial Aid	15	3.933	.884
35	Student Orientation	15	3.867	.990
36	Student Advising/Counseling	15	4.267	.799
37	Student Technical Support	15	4.200	.775
38	Invest in Technology	15	4.533	.640
39	Invest in Networks	15	4.467	.743
40	Invest in Hardware	15	4.200	.775
41	Invest in Software	15	4.000	.926
42	Expand Capital Infrastructure	15	3.600	.986
43	Increase Student Financial Aid	15	3.733	.961
44	Increase Operating Support	15	4.200	.862
45	Improve Faculty & Staff Salaries	15	3.933	.961
46	Invest in Faculty Training	15	4.533	.743

Table 4-6

Analysis of Key Barriers of States with Policy

Number	Characteristic	N	Overall Mean	Standard Deviation
1	Lack of fit with institutions mission	9	1.333	.500
2	Lack of perceived need	9	1.667	.707
3	Lack of support from institutions administrators	9	2.444	.726
4	Program Development costs	9	3.444	.527
5	Equipment failures/Maintenance	9	2.889	.782
6	Limited technological Infrastructure	9	2.556	1.236
7	Concerns about faculty workload	9	2.111	.601
8	Lack of faculty interest	9	2.444	1.236
9	Lack of faculty rewards/incentives	9	2.778	1.774
10	Legal concerns	9	1.778	.667
11	Concerns about course quality	9	2.111	.782
12	Lack of access to library	9	1.778	.667
13	Interinstitutional issues	9	2.111	.782
14	Restrictive policies	9	1.444	.527
15	Inability to obtain state authorization	9	1.111	.333

Respondents to the survey of state directors were offered an opportunity to state their personal perspective based upon the state of education and economic growth by answering item 14. Their responses are summarized in Table 4-8 and described below. Questionnaire responses were based upon each state director s personal perspective as well as analyzed for the differences between those states that do not have distance education policies and those that have policies. Below are the following statements from which each state director could choose.

Table 4-7

Analysis of Key Barriers of States without Policy

Number	Characteristic	N	Overall Mean	Standard Deviation
1	Lack of fit with institutions mission	15	1.867	.915
2	Lack of perceived need	15	2.200	.862
3	Lack of support from institutions administrators	15	2.267	1.100
4	Program Development costs	15	3.333	.816
5	Equipment failures/Maintenance	15	2.667	.900
6	Limited technological Infrastructure	15	2.667	1.113
7	Concerns about faculty workload	15	2.533	.743
8	Lack of faculty interest	15	2.400	.828
9	Lack of faculty rewards/incentives	15	2.800	.862
10	Legal concerns	15	1.933	.458
11	Concerns about course quality	15	2.600	.632
12	Lack of access to library	15	2.267	.799
13	Interinstitutional issues	15	2.267	.884
14	Restrictive policies	15	2.333	.900
15	Inability to obtain state authorization	15	1.467	.834

Table 4-8

Summary of State Respondents Personal Perspectives

Statement	# of Responses	% With Policy	% Without Policy
A	11	67%	33%
B	12	33%	60%
C	1	0	7%

Statement A: Competition from the marketplace rather than public policy will drive most significant change in electronically delivered distance education programs.

Statement B: Our changing economy and the increasing demands for quality electronically delivered distance education programs will require strong leadership from policymakers in order to define new policies for higher education that will ensure state needs are met into the next century.

Statement C: Given political realities, limited state resources and the resistance to change from postsecondary institutions, there will be little change in state policies regarding distance education.

Eleven respondents indicated that Statement A came closest to their personal perspective. Of those 11, 67% came from states with distance education policies, while 33% came from those states without distance education policies. Twelve respondents indicated that Statement B came closest to their personal perspective. Of those 12, 33% came from those states with distance education policies, and 60% came from those without policies. One respondent chose Statement C; 7% came from a state without distance education policies.

Respondents to the survey of state director s were offered an opportunity to make personal comments and recommendations concerning the top three issues that have been at the forefront of policy discussions regarding electronically delivered distance education technology. Their responses are summarized in Table 4-9 and described below.

Table 4 -9

Summary of Comments from the State Director s Survey

Comment Category	Percentages
Funding Issues	67%
Faculty & Program Development	46%
Infrastructure	42%
Quality	33%
Partnerships/Collaborations	33%
Student Services	21%

Note. Respondents could refer to more than one category. Number of written responses = 24.

Questionnaires returned by state directors addressed both recommendations and personal comments toward the development of electronically delivered distance education policies. As reported, 67% of respondents indicated that funding issues were critical to the development and effectiveness of distance education policies. Forty-six percent (46%) of respondents also indicated that faculty and program development was an important area for policy to address to provide for the proper development of electronically delivered distance education programs. Forty-two percent (42%) indicated that infrastructure was an issue at the forefront of distance education policy and program delivery. Thirty-three percent (33%) of the respondents agreed that providing both quality programs and the ability to develop partnerships and collaborations with business and industry was a necessary component to the development of effective and efficient distance education policy. Twenty-one percent (21%) indicated that student services policies were vital and necessary to the quality of distance education program developed.

Results of Hypotheses Testing

Multiple one-way analyses of variance were conducted using the independent variables of states that have distance education policies and those that did not have policies. The dependent variables were the three identified through a review of the

literature and meetings with national associations. They included infrastructure, program development, and faculty and student support. The null hypotheses tested in this study were as follows:

1. There is no significant difference in the measures of infrastructure for those states that have policies and those that do not.

2. There is no significant difference in the measures of program development for those states that have policies and those that do not.

3. There is no significant difference in the measures of faculty and student support for those states that have policies and those that do not.

4. There is no significant difference in the barriers which have kept postsecondary institutions from expanding distance education programs for those states that have policies and those that do not.

Each hypothesis was analyzed to determine the level of significant difference. To confirm that the analysis of variance was conducted properly, appropriate post hoc testing was preformed.

Table 4-10 reports the analysis of variance results for the states that have a distance education policy and those that do not as it relates to infrastructure. The F value of .55 and P value of .479 were not significant at the .05 level. The .05 alpha level was determined prior to testing, and if lowered, it was possible that the ANOVA would demonstrate that there was a significant difference. As a result of this analysis, the null hypotheses failed to be rejected for the dependent variable of infrastructure.

Table 4-11 reports the analysis of variance results for the states that have distance education policy and those that do not as it relates to program development. The F value

of .97 and P value of .353 were not significant at the .05 level. The .05 alpha level was determined prior to testing, and if lowered, it was possible that the ANOVA would demonstrate that there was a significant difference. As a result of this analysis, the null hypotheses failed to be rejected for the dependent variable of program development.

Table 4-10

Analysis of Variance for Policy vs. No Policy and Infrastructure

Source	DF	Sum of Squares	Mean Square	F value	P value
Policy	1	176.000	176.000	.55	479
Error	8	2565.000	321.000		
Total	9	2742.000	497.000		

Table 4-11

Analysis of Variance for Policy vs. No Policy and Program Development

Source	DF	Sum of Squares	Mean Square	F value	P value
Policy	1	1210.000	1210.000	.97	.353
Error	8	9974.000	1247.000		
Total	9	11184.000	2457.000		

Table 4-12 reports the analysis of variance results for the states that have distance education policy and those that do not as it relates to faculty and student support. The F value of .63 and P value of .451 were not significant at the .05 level. The .05 alpha level was determined prior to testing, and if lowered, it was possible that the ANOVA would demonstrate that there was a significant difference. As a result of this analysis, the null hypotheses failed to be rejected for the dependent variable of faculty and student support.

Table 4-13 reports the analysis of variance results for the key barriers, which have kept states from expanding electronically-delivered distance education programs as they

relate to infrastructure. The F value of 1.036 and P value of .3386 were not significant at the .05 level. The .05 alpha level was determined prior to testing, and if lowered, it was possible that the ANOVA would demonstrate that there was a significant difference. As a result of this analysis the null hypotheses failed to be rejected for the dependent variable of infrastructure.

Table 4-12

Analysis of Variance for Policy v. No Policy and Faculty and Student Support

Source	DF	Sum of Squares	Mean Square	F value	P value
Policy	1	706.000	706.000	.63	.451
Error	8	9005.000	1126.000		
Total	9	9711.000	1832.000		

Table 4-13

Analysis of Variance for Barriers and Infrastructure

Source	DF	Sum of Squares	Mean Square	F value	P value
Policy	1	14.400	14.400	1.036	.3386
Error	8	111.200	13.900		
Total	9	125.600	18.300		

Table 4-14 reports the analysis of variance results for the key barriers, which have kept states from expanding electronically delivered distance education programs as they relate to program development. The F value of .957 and P value of .3565 were not significant at the .05 level. The .05 alpha level was determined prior to testing, and if lowered, it was possible that the ANOVA would demonstrate that there was a significant difference. As a result of this analysis the null hypotheses failed to be rejected for the dependent variable of program development.

Table 4-15 reports the analysis of variance results for the key barriers which have kept states from expanding electronically-delivered distance education programs as they relate to faculty and student support. The F value of .720 and P value of .4207 were not significant at the .05 level. The .05 alpha level was determined prior to testing and if lowered it was possible that the ANOVA would demonstrate that there was a significant difference. As a result of this analysis the null hypotheses failed to be rejected for the dependent variable of faculty and student support.

Tukey s Studentized Range Test was used to determine if the conclusion of accepting the null hypothesis was correct. The Tukey Studentized Range Test was used because it does not require the F statistic to be significant as does the Fisher s LSD test. Table 4-16 reports the ad hoc test results for infrastructure, program development and

Table 4-14

Analysis of Variance for Barriers and Program Development

Source	DF	Sum of Squares	Mean Square	F value	P value
Policy	1	291.600	291.600	.957	.3565
Error	8	2436.800	304.600		
Total	9	2728.400	596.200		

Table 4-15

Analysis of Variance for Barriers and Faculty and Student Support

Source	DF	Sum of Squares	Mean Square	F value	P value
Policy	1	62.500	62.500	.720	.4207
Error	8	694.000	86.750		
Total	9	756.500	149.250		

Table 4-16

Tukey s Studentized Range Test

Variable	Mean Difference	Critical Value
Infrastructure	8.400	26.106
Program Development	22.000	51.478
Faculty & Student Support	16.800	48.913

Effect: Policy
Significant Level: 5%

faculty and student support. Based on infrastructure, the Critical Value is 26.106 and the Mean Difference is 8.400; therefore, you accept the null hypothesis and conclude that there was no difference between states that have distance education policies and those that do not. This confirmed that the analysis of variance test was run properly.

Case Studies of States

As a result of the analysis of variance, all the null hypotheses failed to be rejected. Therefore an extensive qualitative review of state policies, sent in by the community college state directors was conducted to further explore and analyze the various policies used within each state. The findings of the descriptive statistics indicated that a difference does exist between states that have distance education policies and those that do not. Based on this premise, further qualitative investigation was done to assess which factors affect the development of policy. The following section is a discussion of the results of the studies that detail distance education policy for each state that has distance education policies implemented. Each state director of community colleges provided the data. The survey instrument addressed particular areas of distance policy and also requested state

directors to send copies of any policies, recommendations, or guidelines pertaining to the development of distance education policy. The data were analyzed and categorized in alphabetical order. This section is organized based on these data. This section contains the descriptive statistics for each state depicted by the state s that have distance education policies.

Florida

I. Florida--The Florida Community College Distance Learning Consortium and the State Board of Community Colleges addresses several issues concerning distance education policy. The policies include language from the following organizations:

1. Florida Community College Distance Learning Consortium
2. The State Board of Regents
3. Southern Regional Education s Board s Electronic Common Market

By becoming a member of SREB, Florida must comply with the common standards required to be members. The common standards include addressing issues regarding regional/statewide certification, curriculum and instruction, institutional context and commitment guidelines, and the development of evaluation and assessment plans. Florida s consortium or more specifically the Course Acquisition, Selection, Development and Evaluation Committee (CASDE) is responsible for bids and purchases of technology infrastructure. Although the Florida Community College Distance Learning Consortium is responsible for determining the best policies for the development and delivery of distance education the State Board of Community Colleges has the final approval of all activities. By following the guidelines set by the Southern Regional Education Board, Florida must comply with the following guidelines:

1. Curriculum/Instruction

   a. Development of learning outcomes.
   b. Development of programs and coursework that is both sequential and transferable to other institutions.
   c. Faculty must have appropriate academic credentials.
   d. Adjunct faculty must be reviewed and approved by institution.
   e. Instructional support staff role must be clearly defined.
   f. Quality must be continually evaluated and assessed.
   g. The course must include an appropriate level of faculty/student interaction.

2. Institutional Context and Commitment

a. Demonstration of the institution to the commitment of providing distance education.
b. As part of its mission statement, the institution must emphasize its long term commitment to providing distance education.
c. Development of institutional policy and procedures which support distance education.
d. Institution has financial resources to support distance education courses/programs.
e. The institution must demonstrate its commitment to student support through the development of policies consistent of:
    1. admissions
    2. tuition and fees
    3. transfer of credit
    4. refund
    5. financial aid
    6. grading
    7. academic records management
    8. academic policies governing course/program activity
    9. program costs/technology expenses
f. The institution must clearly define services provided to students
    1. admissions
    2. registration
    3. tuition and fees
    4. textbooks/support materials
    5. computing and network access
    6. placement
    7. academic advising
    8. testing/assessment
    9. collection/distribution of course material
g. The institution must provide appropriate faculty support.
h. The institution must provide appropriate level of learning resources including access to library materials.

3. Evaluation and Assessment

a. The institution must have a formal evaluation plan of course and program development.
b. The institution must ensure students receive the proper course/program information including proper promotional material.

Hawaii

II. The University of Hawaii system has revised executive policy E5.204, Distance Learning Plans, Policies and Procedures. The policies include language from the following organizations:

1. University of Hawaii
2. The Board of Regents
3. Western Interstate Commission for Higher Education, Principles of Good Practice for Electronically Offered Academic Degree and Certificate programs. Endorsed by the Western Association of School and Colleges.

Criteria addressed in Hawaii s policies and procedures include the following:

1. Commitment, Purpose and Responsibility--The purpose of the distance learning effort is to provide increased access to higher education opportunity. Distance learning in an integral part of the mission and primary responsibility of every campus. Distance learning may involve university instructional, research, continuing education, community service, and/or student affairs units.

2. Collaboration--Distance learning within the University of Hawaii system is a collaborative enterprise requiring partnerships between and among campuses and units. Collaboration with external providers may be considered when internal resources are not available to respond to demonstrated in-state needs.

3. Quality--The quality and standards of distance learning instruction must be comparable to those of other instructional programs of the University. Regardless of collaborative arrangements, the responsibility for quality assurance resides with the campus conferring the credit and/or credential. Faculty are responsible for program coherence, course content, and appropriate pedagogy.

4. Accreditation--The responsibility for meeting accreditation standards for distance learning programs rests with the campus bestowing the degree or certificate/credential; responsibility for student services is shared by originating and receiving campuses; receiving campuses assist the sending campuses in ensuring that all regional accordance with board and executive policy regarding program approval and are issued by the home campus. Campuses may seek approval of credentials designed solely to respond to the needs of distance learning students in accordance with applicable Board and executive policy requirements.

5. Programming Priorities--Programs that respond to statewide public policy priorities and identified needs of the largest number of in-state students will be given priority.

6. Cost to Students In-State--In-state costs for on-line instruction are comparable to the originating charge for on-campus instruction. However special fees may be charged under certain circumstances.

7. Cost to Students Out-of -State--Applicable nonresident tuition applies unless superseded or supplemented by special credit course or other fees. Cost recovery is expected.

8. Noncredit Instruction--Noncredit instruction is offered on a self-support basis with tuition and fees covering direct instructional and indirect infrastructure costs, including the instructor replacement cost for any noncredit instruction taught in-load.

9. Entrepreneurial Distance Learning--These programs may involve both credit and/or noncredit instruction delivered out-of-state or in response to requests from special in-state populations not served through normal programming.

10. Revenue Distribution--Tuition and fee revenues derived from the delivery of credit and noncredit distance learning offerings are retained by the University and shared among the units bearing the direct and indirect costs of the offerings provided.

11. Instructional Load and Distance Learning--In keeping with the institutions mission, distance learning offerings for in-state students are taught in-load whenever existing load permits. In some instances overload payments may be necessary.

12. Transfer and Articulation--UH Board, system, and campus policies that direct student transfer and articulation apply to distance learning students as they do to on-campus students. Collaboration among institutions will be required to fulfill the credential requirements of a specific campus.

13. Special Assistance Students--System-wide consortium arrangements will facilitate student financial aid eligibility. Modifications will be made to facilitate access to the University of Hawaii distance learning programs and services by all qualified students with disabilities.

14. Enrollment Reporting--All appropriate data elements collected will be reported. The institution will report unduplicated distance learning information that assigns enrollments to the unit awarding the credit and/or credential.

Maryland

III. The Office of the Chancellor, University of Maryland University College, and the University of Maryland's Institute for Distance Education co-sponsored the Chancellor's Symposium on Policy and Distance Education. The policies and recommendations include research and language from the following organizations:

1. Council of University System Faculty
2. The Board of Regents
3. The Maryland Higher Education Commission
4. The Southern Regional Electronic Board

Criteria addressed in Maryland s policies and recommendations include the following:

1. Each USM institution will, consistent with its mission, decide how best to incorporate distance education, determining its own strategies, pace and approach. New organizational structures within institutions must be considered to promote collaboration, to leverage resources differently, and to enable interdisciplinary initiatives.

2. Systemwide and institutional planning and budgeting will integrate distance education in response to environmental demands and external competition. USM will revise or develop policy to enable USM institutions to offer strategic and high quality programs through distance education.

3. Institutions will review and revise, as needed, policies and procedures that affect program development, delivery, and evaluation to support distance education.

4. Institutions and the System will assure that policies on intellectual property balance faculty, staff, and institutional rights in development of distance education courseware.

5. Institutional academic and student services policies will be revised to serve the needs of the new generation of learners: admissions, registration, advising, and at the system level, inter-institutional registration.

6. Policies important to supporting partnerships through distance education will be revised or developed under strong system-wide leadership. Particularly important is establishing linkages with Maryland's community colleges and with private corporations to deliver programs and services throughout the nation.

7. Institutional and system-wide leadership will work together to eliminate barriers to cooperation: faculty workload reporting, articulating courses across institutions, incompatible technology infrastructures, tuition and fees, inter-institutional registration procedures, course scheduling, student advising, and resource allocation. Regional accrediting bodies have grappled with issues surrounding distance education. The Maryland Higher Education Commission has adopted the Principles of Good Practice for Distance learning promulgated by the Middle States Association of College and Schools.

8. Faculty will reframe scholarship and reassess the traditional areas of teaching, research, and service and the degree of importance each is given.

9. Faculty will reexamine their teaching methodologies in light of new technologies of distance education.

10. Faculty will redefine their roles in measuring productivity to include the design and delivery of technology-enabled and performance learning. http://www.usmh.usmd.edu/OnLine/DistanceLearning/recomm.html

Montana

IV. The Montana University system is designed to ensure a level of quality equivalent to that of traditional, classroom-based instruction. The policies include language from the following organizations:

1. The Montana University System
2. The Montana Board of Regents
3. The Commissioner of Higher Education and an appointed Advisory Committee on Distributed Learning and Mediated Instruction.
4. The advisory committee will be comprised of representatives from the System campuses, the community colleges, and the Commissioner s office.

Criteria addressed in Montana s policies and procedures include:

1. Mission

   a. Montana University System shall have an approved mission statement of file with the Office of Commissioner of Higher Education.
   b. All programs and courses offered by the respective campuses of the Montana University System shall be consistent with the approved campus mission statement.

2. Reporting Procedures

   a. Annually each institution shall file with the Commissioner an Annual Report of its distributed learning activity.
   b. Each credit course will be filed with the Distributed Learning Coordinator. The courses will meet the following criteria:
      1. course number
      2. course name
      3. number of credits
      4. term
      5. medium(s) of delivery
      6. site (if applicable)
   c. All schedule conflicts will be resolved.

d. Campuses considering the acquisition of large-scale interactive delivery systems must submit proposals to the Distributed Learning Coordinator prior to implementation.

3. Standards and Conditions

   a. Faculty
   b. Instructors responsible for course development must meet the standards used by the institution.
   c. Procedures for evaluation of faculty responsible for credit courses offered via distributed learning must parallel traditional classroom standards.
   d. Whenever enrollment numbers for distributed learning courses are substantially greater the institution must provide technical and instructional assistance to ensure quality.
   e. Faculty who wish to develop and instruct distributed learning courses shall be provided with support services.

4. Students

   a. Students who wish to enroll in programs offered through distributed learning must satisfy the same requirements for admission, enrollment, and compliance to with individual campus policies related to traditional on-campus programs.
   b. Hours earned by distributed learning students shall apply to on-campus residency requirements.
   c. Academic and student support services will be provided to students enrolled in distributed learning courses. These include academic advising, library, computer services, and financial aid services.
   d. Students enrolled in distributed learning courses located at remote sites shall be assessed fees that are applicable to the delivery and support of the course.

5. Course management and support

   a. Standards and procedures for the regular evaluation of the organization and content of distributed learning courses must be equivalent to resident instruction.
   b. Standards for success must parallel traditional resident courses.
   c. Distributed learning methodologies must include on going assessment procedures for evaluation.
   d. Each instructor must provide timely feedback on students progress in the course.
   e. Copyright and intellectual property protection

1. Universities offering technology mediated courses shall ensure compliance with all applicable copyright laws governing the use and transmission of films, videotapes, recordings and performances and other protected works as well as the reproduction of printed materials prior to the offering or transmission of the course.
2. Universities offering technology-mediated courses shall ensure compliance with all laws as well as M.U.S. or institutional policies intellectual property prior to the offering or transmission of the course.

6. Fiscal Practices

   a. State-subsidized F.T.E. normally distributed learning courses and programs will be funded by State appropriations under the approved F.T.E. formulas in combination with a campus resident and non-resident student tuition and approved fees as authorized by the Board of Regents.
   b. Under the state-subsidized model, the instructor s salary and all related instructional costs must be funded from the F.T.E. subsidy and student tuition and fees collected.
   c. The Board of Regents may request fees associated with the cost of technology-mediated courses in advance of the normal date of May each year.
   d. Student credit hours generated through distributed learning must be reported annually to the Office of the Commissioner of Higher Education.

7. Restricted enrollment model--Universities may propose to offer a distributed learning degree or degree completion program to students at remote sites on a restricted fund or self sustaining basis.

   a. Prior to advertising self sustaining program the campus will file with the Distributed Learning Coordinator.
   b. Under the self-sustaining or restricted enrollment model, all salaries and course expenses must be funded from sources outside the institutions state-appropriated operating budget.
   c. All student credit hours generated under the self-sustaining and restricted enrollment model will be reported separately and will not be eligible for state subsidy.
   d. In either instance (noted 1 & 2 above), all versions of distributed learning programs shall be offered under the same financing plan at all sites during any single fiscal year.

Nevada

V. The university and community college system of Nevada planning, program review, articulation and enrollment policies as proposed by the Board of Regent s has developed a handbook to address educational telecommunications (distance learning). Title 4, Chapter 14, Section 10 addresses Nevada s distance learning policies and procedures. The policies include language dictated from other organizations, which include the following:

1. UCCSN (University & Community College System of Nevada Planning) Board of Regents.
2. Western Cooperative for Educational Telecommunications Principles of Good Practice for electronically Offered Degree and Certificate Programs .

Criteria addressed in Nevada s policies and procedures include the following:

1. The quality of distance learning courses should parallel or exceed that of on-campus courses. This includes application, institutional procedures, admissions, selection and evaluation of instructors and assessment of student performance.

2. Incentives will be provided to distance learning instructors as deemed by individual institutions.

3. Each institution will be expected to provide instructional support.

4. The ability to provide interaction between student and instructor. This includes a) orientation sessions, b) scheduled sessions during the semester, and c) consultation time with faculty member.

5. Student access to student support services such as, advising, counseling, library/learning resources, and tutoring and financial aid.

6. Course curriculum must be evaluated.

7. Campus Service Areas--geographic service areas maintained.

8. Enrollment, Fees and Financial aid responsibilities:

    a. Interinstitutional agreements developed to share courseware/programs.
    b. Stand-Alone delivery--If the campus is not authorized to offer the level of course but wishes to negotiate enrollment of student, academic credit will be awarded to receiving campus.

9. The institution offering a distance learning course will receive the student FTEs enrolled in the course. If the course incurs costs to partner institutions, a sharing protocol is established and reimbursements must be made.

10. Each campus will establish a protocol for determining costs or services to be paid by each partner when courses or programs are shared among institutions.

11. The UCCSN will prepare a program plan on an annual basis outlining the new distance learning offerings. The UCCSN plan for distance learning will be prepared in accordance with the following principles:

    a. Plan as a system to address state needs.
    b. Operate programs collaboratively and share resources, if appropriate.
    c. Base program decisions on documented student or citizen need.
    d. Work with constituent groups (e.g. K-12 school districts, employers, and industry representatives) to identify and prioritize the most pressing educational needs.
    e. Use a combination of technologies, as appropriate to curricular needs and student learning styles.
    f. Ensure the academic plans influence the expansion of the technical infrastructure.
    g. Provide essential support services to students.
    h. Build institutional and system capacity to address more needs through distance learning.
    i. Be accountable to the Legislature and the public for their use of state resources and the quality and appropriateness of their services.
    j. Partner with or broker programs from out-of-state institutions, where appropriate.

12. Each institution will have a policy or procedure for the approval of distance learning courses or degree programs. These must be approved by the Board of Regents.

13. Equipment purchased for the use and development of distance learning programs will be owned by the institution and therefore the institution is responsibility for maintenance and service. If equipment is shared then a memorandum will be drawn explaining the shared charges.

14. Student registration fee and tuition rates for distance learning courses shall be the same as those for other forms of instruction. Special rates for high school students may be set by the Board of Regents.

North Carolina

VI. The North Carolina Community College System has just begun to develop policies and procedures for the North Carolina System. The policies include research and language from the following organizations:

1. North Carolina Community College System
2. Southern Regional Electronic Board, Principles of Good Practice.

Criteria addressed in North Carolina s policies and procedures include the following:

1. Reporting of Student Hours in Membership For Curriculum Classes

   a. The following are proposed revisions to the North Carolina Administrative Code:23NCAC 2D.0323 (Excerpts pertaining to Nontraditional Delivery)
   b. (3) Rule 23 NCAC 2E.0604 specifies that if two or more colleges jointly offer credit courses or programs, the colleges must enter into a written collaborative agreement. Individual courses developed by a college or jointly by colleges and delivered via media are not subject to this rule (Collaborative Agreements) as long as a degree, diploma, or a certificate is not awarded. In this situation, the sending college shall have an approved curriculum standard and an approved program of study. The receiving college may offer the course by virtue of the sending college s approval.
   c. (4) Service are agreement requirements, set forth in Rule 23 NCAC 2C.0107, are applicable when a class meets physically as a group supervised by faculty or staff outside the sending college's service area.
   d. Sharing FTE s for Nontraditional Courses Jointly offered by Colleges
      1. Definitions
         i. Sending college--The college that designs, develops and delivers the course and makes it available to students on any one or several media. Instructional cost incurred by a college for courses delivered in a nontraditional format is eligible to generate budget/FTE. Instructional cost includes salaries, fringe benefits, supplies materials, access fees, license fees, broadcast and other directly related production costs. Students who register through the sending college is included in the college s student hour reports with generate FTE.
         ii. Receiving college--The college providing physical facilities or services for students enrolled in courses originating from the sending college. The college incurs a lesser instructional cost than the sending college and is eligible to report 50% of the FTE generated by the students who register through the receiving college may be reported by the sending college unless otherwise agreed.

iii. In situations where there are multiple sending colleges and/or multiple receiving colleges, the FTE split noted in subdivision (s)(h)(ii) of this Rule is applied.

2. Reporting of Student Hours in Membership for Extension (Noncredit) Classes

   a. 23 NCAC 2D.0324 (Excerpts pertaining to nontraditional delivery)
   b. Individual nontraditional classes which may be developed by a college or jointly by colleges and sent via media are subject to service area agreement requirements set forth in Rule 23 NCAC 2C.0107 when the class meets physically as a group and is supervised by faculty or staff, outside the sending college s service area.
   c. Sharing FTE s for Nontraditional Classes Jointly Offered by Colleges
      1. Definitions
         i. Sending College--The college that designs, develops, and delivers the course and makes it available to students on any one or several media. Instructional cost incurred by a college for courses delivered in a nontraditional format is eligible to generate budget/FTE. Instructional cost includes salaries, fringe benefits, supplies, materials, access fees, license fees, broadcast and other directly related production costs. Students who register through the sending college are included in that college s student hour reports, which generate FTE.
         ii. Receiving college--The college offering physical facilities or services for students enrolled in courses originating from the sending college. This college incurs a lesser instructional cost than the sending college and is eligible to report 50% of the FTE generated by the students registered through the receiving college may be reported by the sending college unless otherwise agreed upon.
         iii. In situations where there are multiple sending colleges and/or multiple receiving colleges, the FTE split noted in subdivision (4)(h)(ii) of this Rule is applied.

Although the actual policies sent with the survey instrument only address the reporting of student hours, during a phone interview it was discussed with Janyth Fredrickson that North Carolina proscribes to the Southern Regional Electronic Board, Principles of Good Practice.

Oklahoma

VII. The Oklahoma State System of Higher Education has designated the State Regents to assign each institution an extension function with the scope of the activity varying by institutional tier. Based on Article XIII-A of the Constitution of Oklahoma continuing education, extension, and public services education is to establish standards for delivering credit educational experiences through

electronic media with the primary focus being distance learning programs and courses. The policy guidelines incorporate a variety of language from the following associations and organizations.

1. Middle States Association of Colleges and Schools Commission on Higher Education.
2. Technology 2000: Utilization of Information Technology in Oklahoma Higher Education Systems.
3. North Central Association Commission on Institutions of Higher Education. Principles of Good Practice for Electronically Offered Academic Degree and Certificate Programs.

Criteria addressed in Oklahoma s Policies and Procedures include the following:

1. Authorization, Purpose, and Definitions

2. Criteria and Process for Program Evaluation

    a. Approval of program process
    b. Procedures for State Regents acceptance of program
    c. Continual approval process
    d. Evaluation of program curriculum

3. Educational Standards for Courses and Programs

    a. Academic standards and quality of curriculum
    b. Applicability of credit for degrees
    c. Technical support standards for faculty and students.
    d. Competency based curriculum that meets State System standards.
    e. Institutional assessment of faculty, and course material.
    f. Compliance to copyright and intellectual property rights.

4. Fiscal Provisions

    a. Based on fee structure
    b. If entered into a partnership with military, profit or nonprofit associations, corporations or other private entities all fees may be negotiated but final approval comes from State Regents.

5. Reporting: The Unitized Data System will be used to report all program data.

6. Policy Review: continuous reviews of the following policies will be regularly evaluated based upon the continuing rapid advances of technology.

Texas

VIII. The Texas Higher Education Board has designed Institutional Plans for Distance Education and Off-Campus Interaction. The Plan applies to all forms of distance education as defined by Chapter 5, Subchapter H of the THECB s Rules and Regulations. The policies include language from the following organizations:

1. Texas Higher Education Coordinating Board (THECB)
2. Southern Association of Colleges and Schools
3. Principles of Good Practice for Electronically Offered Degree and Certificate Programs as adopted by the Southern Regional Education Board.

The Texas Higher Education Coordinating Board has devised Guidelines for Institutional Plans for Distance Education. They have proposed several different parts for institutions to follow. In an effort to streamline institutional plans, the THECB has devised a checklist for all institutions to follow. The list includes the following:

1. Institutional issues

   a. The institution affirms compliance with The Principles of Good Practice for Electronically Offered Academic Degree and Certificate Programs.
   b. The distance education program is consistent with the institution s educational mission.
   c. The institution has assessed that a market exists for distance education to be delivered by the institution, particularly when delivering complete degree and certificate programs.
   d. The institution evaluates the overall effectiveness of distance education courses and programs (such as student learning, student retention, the effectiveness of the utilized technology, mechanisms to provide student feedback during the course, and comparability with campus-based programs) and the evaluation process is incorporated into overall institutional effectiveness efforts.
   e. The institution has offices responsible for distance learning. Describe the placement of the offices in the institution organization and explain how this provides the appropriate oversight of programs and faculty and student support.
   f. The institution has established requirements for admissions, satisfactory student progress, and graduation requirements for distance education.
   g. Policies relevant to transcriptions, grading, and transfer credentials are in place.
   h. The institution has a process in place to address the needs of distance learners who fall under the Americans with Disabilities Act.
   i. SACS and other professional credentialing agencies have been notified, as appropriate.
   j. The institution has sufficient financial resources to initiate and maintain quality distance learning programs.

k. There is a financial plan for maintaining the support systems needed for the activities, including upgrading of systems currently being used.

2. Educational Programs

   a. The institution has procedures in place for planning, development approval and review of quality distance education programs.
   b. Procedures are in place to insure student learning outcomes; student retention and student satisfaction is comparable between the distance delivery mode and the traditional on-campus format.
   c. Procedures are in place to evaluate all instructional materials developed by other organizations or institutions prior to use in distance education.

3. Faculty

   a. The qualifications for distance education faculty are the same as faculty teaching the same as faculty teaching the same courses in a traditional on-campus format.
   b. The institution provides orientation and training for faculty involved in distance education programs.
   c. Procedures are in place for appropriate instruction staff and for evaluation of faculty involved in the distance education program.
   d. A policy exists that addresses faculty teaching load for those involved in distance education.
   e. A process exists for evaluating the credentials of faculty employed by other institutions that are teaching courses for which your institution is awarding credit.
   f. The institution has policies on intellectual property, faculty compensation, copyright guidelines, and the distribution of revenue.

4. Student Support Services

   a. The institution provides distance learners access to appropriate student services, such as admissions, registration, academic advising, remedial services, placement services, testing and assessment, orientation, computing departments, financial aid offices, counseling, and help desk/hot line.
   b. Distance learners have access to library resources of an appropriate breadth and quality for the distance education programs offered.

5. Distance Education Facilities and Support Services

   a. The institution has available the facilities and equipment necessary to deliver its distance learning program.

b. Arrangements have been made for off-campus delivery of required laboratories, clinical placement sites, workshops, seminars, etc. associated with distance learning activities.

Virginia

IX. The VCCS Distance Learning Management Model, adopted by Chancellor Oliver upon recommendation of the Advisory Council of Presidents, describes the distribution of tuition revenue, FTE credit, instructional costs, student support responsibilities, and other management considerations among VCCS institutions engaged in distance learning. The policies and principles include research and language from the following organizations:

1. Virginia Advisory Council of Presidents
2. Virginia Distance Education Network
3. Virginia Community College System
4. SACS
5. Southern Regional Electronic Board

Criteria addressed in Virginia s Policies and Procedures include the following:

1. The guiding principles of the VCCS Distance Learning Management Model are as follows:

   a. That the model should reflect what is in the best interest of the student.
   b. That it should keep administrative bureaucracy and paperwork to an absolute minimum.
   c. That it should provide participating incentives for both the receiving and delivering institutions.
   d. That it should recognize student choice and student access as fundamental.
   e. That it should take into account the diversity of distance learning options (e.g., credit versus noncredit) and present solutions applicable across the board.
   f. That it should acknowledge distance learning as an instructional delivery option of the future which (a) crosses geographical boundaries inside and outside the state, (b) broadens the market competition to beyond the state, and (c) ultimately redefines the traditional bounds for instructional delivery.
   g. That it should be evaluated after one year of implementation.

2. Operational Guidelines of the VCCS Distance Learning Management Model:

   a. The model creates distinctive features for delivering versus receiving colleges, synchronous mode versus asynchronous mode, course delivery versus program delivery, and combinations thereof.

b. A Delivering College is the college that designs, develops, and delivers the course presentation and makes it available to students on any one or several media. The college must meet VDEN standards for supporting distance education.
c. A Receiving College is the college offering physical facilities or services for students enrolled in college coursework from a delivering college. The receiving college must meet VDEN standards for supporting distance education.
d. Synchronous Distance Education Courses are characterized by live two-way communication and have a very similar instructional format to more traditional classroom instruction. These courses usually are taught over compressed video networks, satellite downlinks with telephonic return audio, and audiographics systems of computer images and voice communication. Students in these courses meet in the facilities of delivering and receiving colleges, with fixed meeting times equivalent to classroom instruction.
e. Asynchronous Distance Education Courses are characterized by intermittent, as-needed communication. These courses are conducted from any location, at times chosen individually by the participating students and faculty. There are no fixed class times or locations, and not all students are in communication at the same time with instructor or each other. The work of both the students and their instructor is accomplished outside the traditional classroom. Students may only appear on campus to use the delivering or receiving college's Learning Resources Center, take examinations, and purchase textbooks. Typically computer conferencing courses, telecourses, voice-mail courses, and audiocassette courses constitute forms of asynchronous instruction.

3. All distance learning courses, both inter- and intra-college will be identified by appropriate coding within the Student Information System (SIS). Each college will identify a distance learning contact person who will serve as the primary college contact for distance learning activities. Distance learning network line costs are subsumed under each college s monthly ATM network service charge. Each delivery college will execute a standard Memorandum of Understanding form with participating colleges, indicating any agreed upon variances from the model. Upon recording of enrollment data through the AKT process, the VCCS Budget Office will effectuate budget transfers between colleges based upon inter-college activity. Variances to the model, as agreed upon by delivering and receiving colleges, can be made via inter-agency transfers. Adjustments to FTES will be made for purposes of the budget reallocation process, but not for purposes of reporting to external agencies.

   a. For synchronous course delivery,
      1. Students may register at the participating college of their choice.

2. Both the delivering college and the receiving college(s) receive FTES credit. The FTES credit for each participating college is based on the total enrollment the college generates.
3. Both the delivering college and the receiving college(s) receive tuition revenue. The tuition revenue for each participating college is based on the total enrollment the college generates.
4. Faculty costs are shared proportionally between/among the delivering college and the receiving college(s) based on respective course enrollments. A $1000 per credit hour "instructional fee" is the basis for calculating instructional costs.
5. Minor costs for course instructional materials (other than those purchased by students) are shared proportionally between/among the delivering college and the receiving college(s) based on respective course enrollments. Major instructional materials costs will be negotiated and included in the Memorandum of Understanding between participating colleges. Participating colleges may individually negotiate agreements for the instructional delivery of noncredit synchronous distance education courses.

b. For asynchronous course delivery:
   1. Students may register at the participating college of their choice.
   2. The delivering college receives FTES credit for all students it enrolls and FTES credit for 50% of the enrolled students of the receiving college. The receiving college receives FTES credit for 50% of the students it enrolls.
   3. The delivering college receives tuition revenue for all students it enrolls and tuition revenue for 50% of the enrolled students of the receiving college. The receiving college receives tuition revenue for 50% of the students it enrolls.
   4. Faculty costs are the sole responsibility of the delivering college.
   5. Costs for course instructional materials (other than those purchased by students) are the sole responsibility of the delivering college.
   6. Participating colleges may individually negotiate agreements for the instructional delivery of noncredit asynchronous distance education courses.

4. For program delivery:

   a. Students may register at the participating college of their choice for courses with a prefix not in the major. For courses with a prefix in the major, students should register at the campus/college that hosts the curriculum, i.e., the delivering college. Students receiving federal financial aid must register at the campus/college that houses the "eligible program" (curriculum) in order to remain eligible for financial aid.
   b. The delivering college receives 100% FTES credit for courses with a prefix in the major. General education courses and other nonmajor components of a curriculum may be offered by receiving colleges, with

appropriate FTES distributions as for synchronous or asynchronous courses. Cooperating colleges may alter FTES distributions, if agreed upon in a Memorandum of Understanding.

c. The delivering college receives 100% of the tuition revenue for courses with a prefix in the major. General education courses and other nonmajor components of a curriculum may be offered by receiving colleges, with appropriate tuition revenue distributions as for synchronous or asynchronous courses. Cooperating colleges may alter tuition revenue distributions, if agreed upon in a Memorandum of Understanding.
d. Faculty costs (for courses with a prefix in the major) are the sole responsibility of the delivering college. General education courses and other nonmajor components of a curriculum may be offered by receiving colleges, with appropriate cost sharing distributions as for synchronous or asynchronous courses.
e. Costs for course instructional materials (other than those purchased by students) are the sole responsibility of the delivering college. Cooperating colleges may alter instructional materials cost sharing distributions, if agreed upon in a Memorandum of Understanding.
f. The delivering college (curriculum host college) is the college of record for graduation of the student. http://www.so.cc.va.us/vccsit/dlmodel.htm 12/22/99

5. The purpose of this Virginia Distance Education Network (VDEN) document is to define the goals, purposes, policies, and procedures that govern distance learning that takes place among colleges of the Virginia Community College System (VCCS). The Distance Learning Management Model is the guiding policy approved by the VCCS that forms the basis of this Administrative Plan. The VCCS Learning Resources and Instructional Technology Committee is the advisory body and communication link for VDEN activity. These procedures will be reviewed annually by the VCCS Learning Resources and Instructional Technology Committee to insure continued compliance with SACS criteria and the needs of participating colleges.

   a. Colleges participating in collaborative distance learning activities are required to review the Administrative Plan and remain in compliance with the responsibilities defined for sending and receiving colleges.
   b. Each individual college is responsible for distance learning that takes place solely within its service area, and is responsible for meeting all applicable SACS criteria. The procedures established in this document represent a model to guide individual institutions in all distance education activities to insure consistent quality across all VCCS colleges.
      i. Distance Education Course/Program Goals and Purposes

   Within the scope of the missions of the Virginia Community College System (VCCS) and the colleges' distance education programs, the goals are to

- extend to students equitable access to quality programs and courses;
- expand the educational reach of the VCCS campuses and foster college growth;
- model collaborative uses of instructional technology;
- foster economic development;
- and continuously improve distance education courses, programs, services and the use of technology for instruction.

ii. To accomplish these goals, distance education in the VCCS will fulfill the following purposes:

- Extend specialized programs and courses to campuses on which these programs or courses are not currently available.
- Expand program and course offerings to secondary schools, government agencies, and businesses in college service regions.
- Demonstrate effective applications of instructional technologies to administrators, faculty, students, and visitors.
- Assist government, business, and industry with on-site instruction, training, and meeting opportunities.
- Provide flexible learning opportunities for students with special needs.
- Encourage and support disciplinary, interdisciplinary, intercollegiate, and international collaboration.

iii. Approved programs and courses are made available to students throughout the Commonwealth and the world, thus expanding the educational reach of VCCS colleges.

iv. The delivery of instruction via distance education provides a unique opportunity to model collaborative uses of instructional technology. It allows administrators, faculty, students, and college visitors to observe and participate in the use of new technologies to support learning.

v. Distance education opens opportunities to foster collaboration and economic development with secondary schools, government agencies, and business and community clients. Instruction may be delivered to sites using a variety of synchronous or asynchronous delivery methods. Such ventures serve needs in the areas of instruction, training, and conferencing. 12/22/99
http://www.so.cc.va.us/vccsit/vdenc1.htm

Summary of the Findings

This study was designed to analyze the differences between those states that have a distance education policy and those that do not, exploring consistencies, similarities, and differences upon which policymakers could generate new state and institutional policies that would help to build equitable and efficient distance education programs. The principal objective of the research study was to better understand the guiding principles that help determine the structure of distance education at community colleges by examining state policies currently in place. The nature of this study required the identification of current polices and issues affecting distance education. In addition, the purpose was to formulate recommendations for changes in state and local policy. A quantitative analysis was conducted to determine the consistencies, similarities, and differences among statewide policies. Further qualitative investigation was conducted to assess the issues surrounding each of the nine states with distance education policies currently in place. Descriptive statistics were computed for each survey item. These include frequency distributions, means, mode, percentages, and standard deviations. The dependent variables consisted of infrastructure, program development, and faculty and student support. The independent variables used to classify the state respondents were based upon those states that have policy versus those that do not. The four research questions were addressed independently using multiple one-way analysis of variance.

Although each of the four questions tested using the analysis of variance indicated that there was no statistical significant difference found between those states that have policy and those that do not, that does not mean that there was no difference. Each of the descriptive statistics indicated that a difference does exist between states that have

distance education policies and those that do not. Based on this premise, further qualitative investigation was done to assess which factors affect the development of policy.

Consistencies, similarities, and differences among statewide policies were evident. Consistencies and similarities were found in the area of the states belonging to a local or regional consortia. Consistencies were found by the number of states with distance education policies that also adhere to the Principles of Good Practice. Several other consistencies were found among the states that already have distance education policies and the dependent variables identified as critical factors in the development of distance education policy. Differences were found in the level of policies each state had enforced at each institution within the state. Many of the factors analyzed in the qualitative analysis were consistent with those found in the descriptive criteria. These consistencies and similarities reflected the powerful practical importance of addressing distance education policy and its effect on the development and delivery of electronically delivered programs.

CHAPTER 5
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary of the Study

Higher education has been driven by scientific advancements and by the requirements of a fast-growing population whose needs increase daily, whose problems have been more evident and strongly felt, and whose search for solutions have become more urgent. This stage has pointed to several changes in the structure and goals of education. Increasingly, education has become an agent of social change, promoting new knowledge, new values, and new ways of improving the human condition (Penalvar, 1990, p. 1). All institutions strive to provide quality alternative instructional delivery and enter the increasingly competitive race for new students, two areas often receiving little attention, policy and planning (Gellman-Danley & Fetzner, 1998, p. 1). Attention to policy development was essential to overcoming the barriers at the local, state, and consortium levels. Advanced policy development has been a key component of a well-run distance learning initiative. The toughest distance learning policy questions remained unasked. By asking the difficult questions, distance learning policy has alleviated some potential policy pitfalls and has contributed to the quality, rigor, and strength of distance learning policy development and instruction (Gellman-Danley, Fetzner, 1998, p. 4). The purpose of this study was to identify the consistencies, similarities, and differences among states that have distance education policies and programs and those that do not. The intent was to identify areas of common ground upon which states can build new

policy frameworks for the development and delivery of distance education at the postsecondary level.

The distance education survey was undertaken with support from the Community College Business Officers and the National Council of State Directors of Community Colleges. Each of these organizations identified the critical issues surrounding distance education policy at the state level. By identifying the consistencies, similarities, and differences of distance education policy at the state level, it was hoped that future policy would provide a basis upon which higher education would be able to develop and implement distance education programs.

Research questions addressed were as follows:

1. To what extent do infrastructure policies differ when compared by the states that have distance education policies and those that do not?

2. To what extent do program development policies differ when compared by the states that have distance education policies and those that do not?

3. To what extent does a relationship exist among the states that have distance education policies and those that do not to the responses on faculty and student support?

4. To what extent does a relationship exist among the states that have distance education policies and those that do not to the responses on the barriers which have kept postsecondary institutions from expanding distance education programs?

The content of the survey was developed through a review of literature and an in-depth analysis of distance education policy and programs. Key variables were determined to assess distance education initiatives and current policy. Three policy areas were determined to have a major effect on the ability to provide equitable and quality distance

education programs. These included infrastructure, program development, and faculty and student support. Following the development of the survey instrument, a meeting was held with the education commission of the states and a select group of community college state directors to perceive if the data were applicable and easy to process. Once all the necessary changes had been made to the survey, the survey was sent out to 53 community college state directors. Survey items 1 through 5 related to state financial data. Item 6 was a scale relating to the various state s investment options. A 7-point scale was provided with the following responses: significant decrease, decrease, slight decrease, increase, significant increase, and no opinion. Item 7 was a ranking of what state directors found to be the most important spending category (1-3). Items 8 through 12 included a scale provided with the following responses: not important (1) to very important (5). Item 13 was a scale provided with the following responses: not at all, minor extent, moderate extent, and major extent. For each group of questions, respondents were asked to check the response that best described the importance of the policy related to distance education. Numerical weightings were assigned to the options. Revisions were made to the survey. The survey was then sent to a distance education expert at the State Higher Education Executive Offices. The survey was reviewed and critiqued for the applicability and design of the survey. Finally, a survey was then sent out to a select group of business officers and state directors to determine if the questions were applicable and easy to interpret and answer. An accompanying cover letter was included to ask for cooperation and to instruct participants on the return process. The survey instrument addressed policy issues, financial data, current financing practices, current initiatives at the forefront of distance education, program development, and personal perspectives of participants as it

relates to the development of distance education policy. Also requested was the submission of distance education policy guidelines currently implemented.

For the purpose of this study, the four research questions were addressed independently using multiple one-way analysis of variance. The statistical design placed subjects into groups based on the independent variable of policy versus no policy among state level distance education programs. The study compared the means of the two groups based upon the dependent variables of infrastructure, program development, and faculty and student support to determine if the differences between them represent a systematic effect.

Conclusions of the Study

The findings of the study indicated that the responses of states with distance education policies to the three dependent criteria had not yielded significant differences when compared with states without distance education policies. Each of the four questions tested using the analysis of variance indicated that there was no statistical significant difference found between those states that have a policy and those that do not. As a result of the analysis of variance, all the null hypotheses failed to be rejected. Therefore an extensive qualitative review of state policies, sent in by the community college state directors was conducted to further explore and analyze the various policies used within each state. The findings of the descriptive statistics indicated that a difference does exist between states that have distance education policies and those that do not. Based on this premise, further qualitative investigation was done to assess which factors affect the development of policy.

The study s findings indicated that there are consistencies, similarities, and differences among statewide policies. These consistencies, similarities, and differences are reported below.

1. Funding infrastructure was considered by respondents to be the number one priority for future policy development. The fear among many state level directors was that the cost of funding distance education program development would exceed the funds available through the general fund. Therefore, many states needed to find alternative methods for funding distance education programs.

2. Consistencies and similarities were found in the area of the states belonging to local or regional consortia. The responses indicated that both quality and assessment were key areas addressed by many consortiums and, therefore, believe that it was important for institutions to become members of local or regional consortiums.

3. To address respondents concern for quality programs, it was also noted that consistencies were found by the number of states with distance education policies that adhere to *The Principles of Good Practice. The Principles of Good Practice* were developed to assure students about the quality of course and programs available through the electronic campus. With quality and assessment being identified as one of the criteria for future policy development, the ability of an institution to be accredited was of concern for many state directors.

4. One hundred percent (100%) of the respondents ranked the development of partnerships and collaborations with business and industry as the most important function influencing the development of distance education policy. Chute and Gulliver (1996) argued that partnerships between distance higher education and the corporate, labor, and

professional sector hold great promise, only for providing broad access to educational opportunities, but also for fueling the engine of innovation in higher education and its technological applications (p. 7).

5. Anticipating the future needs of the 21st century workforce, respondents indicated that investing in faculty training and development was a key component to the development of quality distance education programs.

6. The successful implementation of student support systems required states to examine their current procedures and develop strategies for increasing the efficiency and effectiveness of their support systems. Respondents argued that student support services were an important element to devising distance education policy, which meets the needs of both institution and learner.

Differences were found in the level of policies each state had enforced at each institution within the state. Many of the factors analyzed in the qualitative analysis were consistent with those found in the descriptive criteria. These consistencies and similarities reflected the powerful practical importance of addressing distance education policy and its effect on the development and delivery of electronically delivered programs.

Policy Recommendations and Issues for Further Study

The intent of this study was to identify areas of common ground upon which states could build new policy frameworks for the development and delivery of distance education at the postsecondary level. The results of this study indicated that although there were no statistical significant differences between states that have policies and those that do not, many differences did exist between the dependent variables of infrastructure, program development, and faculty and student support. The qualitative data analysis

showed that many of the characteristics identified within the dependent factors of infrastructure, program development, and faculty and student support have helped to advance institutions in their pursuit to provide equitable and effective distance education programs. These characteristics have been found to be of great importance on both the national (state level) and institutional level. National state level policies focus on resource management, particularly developing funding formulas, which determine how resources have been collected and distributed among institutions. A constant concern for educators has been the focus on the quality of programs and has been intensified by policies regarding regulation, accreditation, and the development of partnerships and collaboration. Institutionally, there was a similar range of policy issues, including questions of balancing resources allocated for distance education, providing faculty training and development, and the ability to provide student support services. The following seven recommendations addressed the various characteristics that the respondents indicated have an effect on the development of distance education policies both at the national and institutional levels. Seven recommendations have been offered as viable practices that should be incorporated into all state level and institutional level policies. The following include the seven recommendations that have emerged from this study for policymakers.

Recommendation One--Resource Management:

The first recommendation was to develop policies that focus on the protocol for the collection and disbursement of resources through an appropriate funding mechanism. Funding sources include reallocated and specifically budgeted general funds; special internal allocations; tuition; technology fees assessed; and other federal, local, and/or

private support. The following policies have been formulated to address the critical characteristics necessary for the development of distance education funding models.

I. The Nevada Board of Regent s developed the following policies which addressed how institutions receive and split costs with partnering institutions:

   1. The institution offering a distance learning course will receive the student FTEs enrolled in the course. If the course incurs costs to partner institutions (e.g., marketing, registration, technology support), a sharing protocol should be completed prior to the course being offered to identify costs that must be reimbursed among parties.
   2. Each campus has established a protocol for determining costs or services to be paid by each partner when courses or programs were shared among institutions. The protocol would include--but not be limited to--sharing of special student fees, payment of facilitators and other services, responsibilities for making the course and recruiting students, advising, and other support.

II. The Florida Public Postsecondary Distance Learning Institute devised policies, which examined the cost and funding of technologically delivered instruction, including an applicable technology fee, and recommended such funding mechanisms to the Institute.

   Proposed mechanisms

   1. Remote learners would be subject to the same definition of residency for tuition purposes as traditional students and would be responsible to pay either in-state or out-of-state tuition, as appropriate.

2. It was desirable for the Community College System and State University System to have comparable policies on distance learning tuition and fees, although the specific tuition and fees assessed may differ between the two systems and among institutions within the same systems.
3. State universities and community colleges have the authority in Rules 6C-7.003 (30) and Rule BA-14.054 (11), respectively, to assess a fee, established by the institution, at the level necessary to defray any added distance learning costs.
4. For remote learners generating state fundable credit hours and reported as part of a community college's or university's enrollment plan, the institution should be authorized to waive certain statutory fees (in the case of the SUS, the athletic, activity and service, and health fees and in the case of the community colleges, the financial aid, activity and service and capital improvement fees) if the institution determined that a student was a remote learner and, therefore, unlikely to use the services supported by these fees. The SUS already has authority to waive these fees for students enrolled in courses provided off the main campus pursuant to Section 240.235, F.S. The Community College System would need to determine if rule revision was required to authorize community colleges to waive specified fees for remote learners.
5. As an alternative to (4), universities and community colleges should be authorized to assess a single "flat fee" in lieu of tuition and statutory student fees for students enrolled in distance learning courses that (a) were not

supported by direct expenditures of educational and general or community college program funds; and (b) in which the student credit hours generated were not counted for state funding purposes. The "flat fee" should be in the amount necessary to make the distance learning course self-supporting. Universities already have had authority in Rule 6C-7.008 to waive tuition and fees for students enrolled in courses supported by an external sponsoring entity. This rule would have to be amended to enable universities to collect fees directly from students enrolled in distance learning courses that have been self supporting and receive no state formula funding. Community college Rule GA-14.054 also required an amendment to provide the community colleges with comparable authority.

6. There was support for the establishment of an instructional technology fee that all students would pay, regardless of whether they were enrolled in a course delivered via technology. This fee would be used to support both on-campus and off-campus courses/programs delivered via instructional technology and the appropriate supporting infrastructure and student academic support services. Statutory authorization was required to enable the community colleges and state universities to assess such a fee.

III. The Virginia Community College System developed policies, which specifically addressed the different types of distance learning, and how materials, faculty and students were funded.

For synchronous course delivery

1. Students may register at the participating college of their choice.

2. Both the delivering college and the receiving college(s) received FTES credit. The FTES credit for each participating college is based on the total enrollment the college generates.
3. Both the delivering college and the receiving college(s) received tuition revenue. The tuition revenue for each participating college is based on the total enrollment the college generates.
4. Faculty costs were shared proportionally between/among the delivering college and the receiving college(s) based on respective course enrollments. A $1000 per credit hour "instructional fee" was the basis for calculating instructional costs.
5. Minor costs for course instructional materials (other than those purchased by students) were shared proportionally between/among the delivering college and the receiving college(s) based on respective course enrollments. Major instructional materials costs would be negotiated and included in the Memorandum of Understanding between participating colleges. Participating colleges may individually negotiate agreements for the instructional delivery of noncredit synchronous distance education courses.

For asynchronous course delivery

1. Students may register at the participating college of their choice.
2. The delivering college receives FTES credit for all students it enrolls and FTES credit for 50% of the enrolled students of the receiving college. The receiving college receives FTES credit for 50% of the students it enrolls.

3. The delivering college receives tuition revenue for all students it enrolls and tuition revenue for 50% of the enrolled students of the receiving college. The receiving college receives tuition revenue for 50% of the students it enrolls.
4. Faculty costs were the sole responsibility of the delivering college.
5. Costs for course instructional materials (other than those purchased by students) were the sole responsibility of the delivering college.
6. Participating colleges individually negotiate agreements for the instructional delivery of noncredit asynchronous distance education courses.

For program delivery

1. Students register at the participating college of their choice for courses with a prefix not in the major. For courses with a prefix in the major, students should register at the campus/college that hosts the curriculum, i.e., the delivering college. Students receiving federal financial aid must register at the campus/college that houses the "eligible program" (curriculum) in order to remain eligible for financial aid.
2. The delivering college receives 100% FTES credit for courses with a prefix in the major. General education courses and other nonmajor components of a curriculum may be offered by receiving colleges, with appropriate FTES distributions as for synchronous or asynchronous courses. Cooperating colleges alter FTES distributions, if agreed upon in a Memorandum of Understanding.
3. The delivering college receives 100% of the tuition revenue for courses with a prefix in the major. General education courses and other nonmajor

components of a curriculum may be offered by receiving colleges, with appropriate tuition revenue distributions as for synchronous or asynchronous courses. Cooperating colleges may alter tuition revenue distributions, if agreed upon in a Memorandum of Understanding.

4. Faculty costs (for courses with a prefix in the major) are the sole responsibility of the delivering college. General education courses and other nonmajor components of a curriculum may be offered by receiving colleges, with appropriate cost sharing distributions as for synchronous or asynchronous courses.
5. Costs for course instructional materials (other than those purchased by students) are the sole responsibility of the delivering college. Cooperating colleges may alter instructional materials cost sharing distributions, if agreed upon in a Memorandum of Understanding. The delivering college (curriculum host college) is the college of record for graduation of the student.

Recommendation Two--Regulation/Quality Programs

The findings in this study indicated that all nine of the respondents of the states that had distance education policies belong to a regional or local consortium. The Consortium licenses and/or develops educational materials for use by all community colleges that increased student access, meet identified needs, and reduce cost (FCCDLC 2000, p.1). Each consortium, whether it is the Virginia Distance Education Network or the Western Governor s University, adhere to the Principles of Good Practice. The Principles of Good Practice state,

I. The Southern Regional Electronic Campus would help students find and enroll in high-quality courses and programs at colleges and universities in the Southern Regional Education Board. Students would be able to complete most of the coursework electronically and may not need to leave their hometowns or campuses. By using the Electronic Campus, students would be able to obtain information over the Internet about each course and program and would know the standards that the colleges and universities have pledged to meet for these distance learning programs and courses. Students interested in enrolling in a program or course would be able to link easily with the college or university offering the course.

II. The Principles of Good Practice, the cornerstone of this electronic marketplace, were developed to assure students about the quality of courses and programs at the Electronic Campus. The principles were drawn upon the work of the Western Interstate Commission for Higher Education and other organizations. All courses and programs to be listed in the Electronic Campus have been reviewed against the Principles of Good Practice by the offering colleges or universities and have been coordinated through the state higher education agency.

III. The goal of the Electronic Campus was to provide students with a central point of reference, giving them easier access to quality programs and courses. A first step was to conduct a survey. The report, SREB State Regulations as they apply to distance learning, found that there appear to be no significant regulatory considerations that would halt the development of such a regional approach. Thus, in January 1998, the Electronic Campus was launched.

IV. Scope of the Southern Regional Electronic Campus

The scope of the Electronic Campus will be limited to higher education academic degree and certificate programs and credit courses offered electronically. Noncredit professional-development programs and noncredit courses may be offered later as the Electronic Campus expands.

V. Use of Principles

The purpose of the Principles of Good Practice was to identify the expectations and requirements for participation in the Electronic Campus. Each institution that seeks to offer an electronically delivered program or course would be asked to ensure that it complies with these principles. The offering institution and the state s designated higher education agency were responsible for quality control. The principles will be used to

1. guide the development of electronically delivered programs and courses to ensure that characteristics of good teaching and learning have been addressed;
2. ensure at the institutional level the quality of the program or course that was seeking acceptance by the Electronic Campus;
3. review the quality of the program or course before it was sent by a state higher education agency for listing by the Electronic Campus.

VI. Basic Assumptions

Several assumptions were central to these principles:

1. The program or course offered electronically was provided by or through an institution that is accredited by a nationally recognized accrediting body and

has been authorized to operate in the state where the program or course originates.

2. The institution s programs and courses holding specialized accreditation meet the same requirements when offered electronically.
3. The institution may be a single institution or a consortium of institution.
4. These principles were generally applicable to degree or certificate programs and to courses offered for academic credit.
5. It has been the institution s responsibility to review educational programs and courses it provides electronically and to ensure continued compliance with these principles.
6. The appropriate state agencies or organizations in the state where courses or programs have been offered will coordinate participation in the Electronic Campus.
7. Institutions that offer programs or for-credit courses were responsible for satisfying all in-state approval and accreditation requirements before students have been enrolled.
8. Participating states agree to accept the listing on the Electronic Campus as assurance that courses and programs meet the Principles of Good Practice.
9. Institutions should give priority for enrolling in Electronic Campus courses and programs to qualified residents of the SREB region.

VII. Curriculum and Instruction

1. Each program or course of study results in learning appropriate to the rigor and breadth of the degree or certificate awarded.

2. A degree or certificate program or course offered electronically is coherent and complete.
3. The course or program provides for appropriate interaction between faculty and students and among students.
4. Qualified faculty must provide appropriate supervision of the program or course that was being offered electronically.
5. Academic standards for all programs or courses offered electronically must have the same as those for other courses or programs delivered at the institution where they originate.
6. Student learning in programs or courses delivered electronically should be comparable to student learning in programs or courses offered at the campus where they originate.

VIII. Institutional Context and Commitment

Role and mission

1. The program or course is consistent with the institution s role and mission.
2. Review and approval processes ensure the appropriateness of the technology being used to meet program or course objectives.

Students and student services

1. The program or course provides students with clear, complete, and timely information on the curriculum, course and degree requirements, nature of faculty/student interaction, prerequisite technology competencies and skills, technical equipment requirements, availability of academic support services, financial aid resources, and costs and payment policies.

2. Enrolled students have reasonable and adequate access to student services and resources appropriate to support their learning.
3. The institution has admission/acceptance criteria to assess whether the student has the background, knowledge and technical skills required for undertaking the course or program.
4. Advertising, recruiting and admissions materials clearly and accurately represent the program and the services available.

Faculty support

1. The program or course provides faculty support services specifically related to teaching via an electronic system.
2. The institution must ensure appropriate training for faculty who teach using technology.
3. The program or course provide faculty with adequate equipment, software and communications for interaction with students, institutions and other faculty.

Resources for learning

1. The program or course must ensure that appropriate learning resources were available to students.
2. The program or course evaluates the adequacy of access to learning resources and the cost to students for access to those resources. It also must document the use of electronic resources.

Commitment to support

1. Policies for faculty evaluation included appropriate recognition of teaching and scholarly activities related to programs or courses offered electronically.

2. The institution demonstrates a commitment to ongoing support, both financial and technical, and to continuation of the program or course for a period sufficient for students to complete a degree or certificate.

IX. Evaluation and Assessment

1. The institution must evaluate program and course effectiveness, including assessments of student learning, student retention, and student and faculty satisfaction.
2. At the completion of the program or course, the institution provides for assessment and documentation of student achievement in each course.
3. Program or course announcements and electronic catalog entries provide appropriate information.

Elaboration of the principles

These principles served as guidelines for colleges and universities participating in the Electronic Campus. The first of these amendments was titled Principles for Electronic Campus Library Services. *Portions were from the statement Principles of Good Practice for Electronically Offered Academic Degree and Certificate Programs, Western Cooperative for Educational Telecommunications, Denver, Colo., 1996.

Recommendation Three--Accreditation

The survey findings indicated that providing quality programs was necessary for the improvement and continuation of distance education at the state and local level. One form of assuring quality was through assessment of program offerings. Therefore, it has been recommended that distance education programs be assessed and adhere to the same standards as traditional programs. It is suggested that the following accreditation process

be included in every state s guidelines for the development of distance education programs.

Accreditation reflects the comparative advantages of American higher education (such as its numerous and diverse institutions and its method of graduate education) and respects its core values of autonomy, self-governance, scholarship, and the assurance of academic quality through peer review (CHEA, 2000, p.1). All academic institutions have periodically been reviewed to determine if they meet accreditation standards. Accreditation, as distinct from recognition of accrediting organizations, focuses on higher education institutions. Accreditation aims to assure academic quality and accountability, and to encourage improvement.

> Accreditation is a voluntary, nongovernmental peer review process by the higher education community. It extends the tradition of collegial governance within the decentralized and diverse higher education enterprise. The work of accrediting organizations involves hundreds of self-evaluations and site visits each year, attracts thousands of higher education volunteer professionals, and calls for substantial investment of institutional, accrediting organization, and volunteer time and effort. (CHEA, 2000, p. 1)

The current material available on distance accreditation from the Southern Association of Colleges and Schools includes the following:

I. Distance Learning Programs

The Commission recognizes the legitimacy of distance learning, such as that conveyed through off-campus classroom programs, external degree programs, branch campuses, correspondence courses, and programs using electronically based instruction offered geographically distant from the main campus. An institution must formulate clear and explicit goals for its distance learning

programs and demonstrate that they are consistent with the institution's stated purpose.

1. An institution must demonstrate that it achieves these goals and that its distance learning programs are effective and comply with all applicable Criteria. (See Commission policy statement "Distance Education: Definitions and Principles.")

II. Distance Learning Programs/Activities

Institutions that offer courses for credit through distance learning activities and programs must meet all criteria related to faculty. Whether through direct contact or other appropriate means, institutions offering distance learning programs must provide students with structured access to and interaction with full-time faculty members.

1. Library/Learning Resources Distance Learning Activities
2. For distance learning activities, an institution must ensure the provision of and ready access to adequate library/learning resources and services to support the courses, programs and degrees offered. The institution must own the library/learning resources, provide access to electronic information available through existing technologies, or provide them through formal agreements. Such agreements should include the use of books and other materials. The institution must assign responsibility for providing library/learning resources and services and for ensuring continued access to them at each site.
3. When formal agreements have been established for the provision of library resources and services, they must ensure access to library resources pertinent

to the programs offered by the institution and include provision for services and resources which support the institution's specific programs--in the field of study and at the degree level offered (SACS, 1998, pp. 1-79).

Recommendation Four--Partnerships and Collaborations

The fourth recommendation was to include the use of partnerships and collaboration when developing distance education programs. The survey findings indicated that developing partnerships with business and industry was essential in two distinct ways. First, it provided an alliance with industry for workers to obtain jobs, and, second, partnering with businesses (whether local or on a national level) provided funding for technological infrastructure. In an age of scarce resources an emphasis on partnerships has become a popular concept in higher education. The term has come to be used for any cooperative or collaborative arrangement between a college or university and another entity--whether a business, industry, labor union, government agency, community or nonprofit organization, or professional organization (Chute & Gulliver, 1996).

I. The purpose for such partnerships is best characterized by Chute and Gulliver (1996) who wrote,

1. Higher education has the faculty expertise, the instructional experience, and the ability to award credit and degrees. In a rapidly changing educational environment, colleges and universities must expand their markets, find new

students or consumers for their products, and develop new products geared to the needs of those new consumers.

2. Partnerships have emerged as an efficient and effective means to achieve those objectives. Distance education was a natural choice because it enables colleges and universities to deliver services where employees or students are located, regardless of how remote or dispersed they may be. The student-centered approach of most distance education also provided the flexibility needed to tailor education or training to specific employer and employee needs.
3. Partnerships between higher education and employers or unions offer another mutual benefit that cannot be ignored. The new technologies that enabled and enhanced distance education are expensive, so much so that colleges and universities frequently cannot consider their use without an outside partner to fund or provide the technological infrastructure. In many cases the technological infrastructure required for distance education is already embedded in existing teleconferencing deployed throughout the business environment. The support to develop the technological infrastructure on the college campus is critical to the ability of academic institutions to engage in innovation. To achieve its aims, a true partnership requires a great deal of effort and willingness compromise on the part of each partner (Chute, Gulliver, 1996, p. 1-8).

The second area, collaboration, described the ability of institutions to work together to provide students with the greatest opportunity to succeed at obtaining an

education. In collaboration (institution-institution) students neither belong to nor are the sole responsibility of one campus or another--they are our students.

II. The Mississippi Virtual Community College cited the following advantages for developing collaborations:

1. ease of transfer and articulation
2. presenting a user friendly platform for the consumer/student
3. building on the strengths of the individual institutions for the good of the whole.

III. The following material was from the Florida Distance Learning Consortium Regional/Statewide approval on developing collaborations and should be addressed when developing collaborations between institutions:

1. Any distance learning program and/or course, which, when delivered regionally and/or statewide, would enhance the community college system s ability to increase student access, foster economic development, and encouraged business and education partnerships, shall be considered by the State Board of Community Colleges for coordination through the Florida Community College Distance Learning Consortium. Specific selection criteria utilized by the State Board of Community Colleges may include, but not be limited to, those distance learning programs and/or courses which

    a. represent a particular unique or specialized program and/or course not available through distance learning within a college s service area,

    b. increased postsecondary access to all Florida residents,

c. increased cost effectiveness of postsecondary education,

d. increased collaboration and cost-sharing among all community colleges and state universities,

e. reduced space requirements,

f. reduced time to obtain a degree, certificate, and/or required training,

g. reduced unwarranted duplication,

h. increased lifelong learning and training opportunities for all Florida residents,

i. meet all licensure and accreditation standards including the Southern Association of Colleges and Schools,

j. addressed the presence of unmet needs in a particular geographic region,

k. strengthen regional service through inter-community college cooperation, and

l. increased instructional effectiveness.

Recommendation Five--Articulation Agreement

As discussed in recommendation four, collaborations have been essential to providing greater access to students/consumer. The survey findings indicated that the number one initiative that states would support to cope with the increased access demands for courses offered via electronically delivered distance education is the development of articulation agreements between institutions. Although many of the institutions responding to the survey did not have policies which address articulation, material was found in the Florida Institute policy guidelines.

I. The following material was found within the Florida Institute policy guidelines for the development of distance education programs.

1. Charge to Subcommittee: Existing policies and practices regarding articulation and transfer of credit between and among Florida's community colleges and state universities adequate to accommodate distance learning courses/programs or are new policies and practices needed?
2. Subcommittee's Response: The current infrastructure, including the Common Course Numbering and statewide Articulation Agreement, as they have been typically applied to the articulation and transfer of credit resulting from traditional classroom instruction, should be utilized for distance learning instruction. The instructional delivery method should not determine the articulation and transfer of credit between and among Florida's community colleges and universities.
3. Operational Assumptions:
    a. The policies shall apply to all courses and programs delivered via distance learning which shall be defined as learning that occurs when the instructor and student are separated by time and/or place, using traditional print-based correspondence and/or electronic technologies.
    b. Each institution shall retain the authority to identify the course and program requirements, which must be met to be awarded a degree from that institution, within the requirements of the laws and rules of the state of Florida.

c. Distance learning courses shall be applicable toward the awarding of a degree in the same manner as traditionally taught courses.

d. Policies currently in place for the transfer of credit under the Statewide Course Numbering System and Rule GA-I 0.024, Articulation with Universities and Community Colleges apply to all distance learning courses. Those policies include the following:

   i. All distance learning courses must be submitted to the SCNS for assignment of a common course number in the same manner as traditional courses. No distance learning course must be offered by a Florida public postsecondary institution without a common course number.

   ii. All courses, distance learning or traditional, which contain the same prefix and last three digits as a course offered in a postsecondary institution must be accepted in transfer and would apply to the degree program in the same way the course offered at the receiving institution.

e. Residency requirements--The SACS "Residency Requirement" required that "at least 25% of credit semester hours, or the equivalent quarter hours, must be earned through instruction offered by the institution granting the degree." (SACS, 1998, p. 1-79). It is assumed that a student can satisfy the 25% requirement by taking distance learning or traditional classroom courses offered by the degree granting institution. It should be noted that current SACS

requirements, specific to graduate students, require "a substantial period of residence" which may prohibit a complete graduate program via distance learning.

f. Registration procedures--Students who have been admitted to an institution can register for distance learning or traditional courses in keeping with their program requirements or interests. If students elect to take a distance learning or traditional course from another institution for credit that will be applied toward their selected degree program, a student transient form or letter must be obtained from the degree granting institution. This procedure guarantees that successful completion of the course will apply toward the degree program and generally provided the student a waiver of admission and testing requirements by the institution offering the course. This process enables the degree-granting institution to alert the student if the total number of credits being attempted exceeds any institutional limits on credits per semester and, therefore, constitutes an "over-load" for the student. This procedure should apply to both distance learning courses and traditional courses.

g. Under most circumstances, the degree-granting institution would grant a student permission (i.e., transient form) to take a course at another institution that would apply towards the student s degree, whether that course is a distance learning course or traditional course. Should a student, without permission, take a course that is applicable to a degree

program, then the SCNS policy should apply and that credit should count. However, there may be exceptions, specifically, with regards to (a) special accreditation requirements that would require certain specialty area courses that have been taken at the institution awarding the degree or (b) students may be required to take additional courses, if they have not satisfied the 25% residency requirement. Students may take courses for their own personal enrichment without seeking permission from the degree-granting institution in which enrolled. However, students have to meet admission requirements and they have not been guaranteed application of that credit toward a degree program.

h. Excess hours--The excess hours would continue to accumulate in accordance with the established procedures, even if the hours are earned through distance learning courses. Transcripts would continue to be analyzed for excess hours and the distance learning courses would be treated the same as any traditional course.

i. Student transcripts--The student s transcript should not differentiate between distance learning courses and those delivered traditionally. For research and evaluation purposes, a coding mechanism should be implemented within appropriate institutional and system-wide databases that distinguish distance learning courses from traditional classroom courses. To the maximum extent feasible, a common coding

system should be used by both the Community College System and the State University System (FPPDLI, 1996).

Recommendation Six--Faculty Development and Training

The intent of recommendation six was to address issues pertaining to faculty development and training. Faculty training and development was considered by state respondents to be an important characteristic in the development of distance education policy. Through extensive research analysis, the following two states provided the most complete list of expectations for training distance education faculty members.

I. Mississippi virtual community college stated the following guidelines for faculty development and should be considered when developing distance education policy:

   1. Faculty development for those instructors who wanted to learn to teach on-line must be provided if this teaching alternative is to be effective. A combination of state and local funded training will be necessary to provide the tools required to teach faculty how to deliver on-line instruction.
   2. The purpose of the training would be to allow course developers to become familiar with the software, to learn to develop a course using the selected software, and to actually have hands-on development experiences.

II. The state of Virginia addressed issues of faculty development but also those areas incorporated in the development process such as faculty compensation and load assignments.

Faculty expectations and responsibilities

1. Faculty who would be responsible for distance learning courses must ensure the academic integrity of the course and must provide for a positive learning experience. Specifically, faculty would be responsible for
    a. Course development and/or revision
    b. Evaluation of student performance
    c. Grading and maintaining student records
2. Providing opportunity for interaction with students (conferences, voice mail, orientations)
    a. Maintaining posted office hours
    b. Cooperating with office or laboratory personnel who administer tests or learning activities

Faculty compensation--Course development

1. Faculty may be compensated for the development of a Distance Learning course in the form of release time. The amount of release time assigned would vary depending on the nature of the course and the faculty effort required to develop it. Typically, release time would be awarded in the following manner:
    a. 3 credits (1 semester) for courses which require substantial faculty preparation of learning materials (video tapes, audio tapes, computer programs, televised lectures, new paper based independent courses, or other similar learning materials).

b. 2 credits (1 semester) for courses which require substantial adaptation of externally prepared materials (commercial audio or video tapes, computer programs, etc.).

c. Release time may be awarded to either full- or part-time faculty. Additional release may be awarded for some course development projects, which have an unusually large scope.

Faculty compensation--Faculty load assignment

1. Based on the course outline and other information provided or requested and the criteria specified in the Determination of Distance Education Course Level chart (see below), the Division Chair determined the Level of a given distance education course.
2. The first time a distance education course was offered or if substantial course revision occurs, for faculty load purposes, the course was considered to be at Level III. This assignment was made because enrollments often lower the first time a course is offered and needs for refinements or adjustments have been discovered in the instruction process.
3. The faculty load (in credits and/or contact hours) for a Level I or Level II course was determined by prorating based on enrollment, that is, multiplying the course credits and/or contact hours by the ratio of actual enrollment to minimum enrollment.
4. If the enrollment fell below the minimum for the assigned Level, four actions were possible: (a) The course could be taught at the indicated reduced load assignment; (b) the enrollment in that course could be combined with the

enrollment in another course of the same level to exceed the minimum for a full work load assignment for the combined courses (borrowing enrollment); (c) the enrollment in that course should be combined with the enrollment in the same course in a subsequent semester to exceed the minimum for a full work load assignment for the combined courses; or (d) the course could be cancelled.

5. If the enrollment in a course was more than twice the minimum for the assigned level, two actions were possible: (a) The course could be taught as a single course with full credits and/or contact hours, or (b) the course could be split into two sections with appropriate credits and/or contact hours for each. The decision to divide a given class or not would be made by the division chair in consultation with the faculty assigned to that course and would be based on factors such as enrollment, the faculty's total load, and the faculty's overall productivity.
6. A Level III course was considered to be the same as a traditional classroom course; course loads were assigned in the usual manner.

Although these two states focus on some basic faculty training and course development issues, the following material from the Technical University of British Columbia provides an excellent resource when addressing issues related to developing faculty policies.

> The purpose of a faculty development plan was to ensure that everyone involved with an institution is clear in their understanding of the role of teaching and learning at that institution. But a good plan should go farther than that. A faculty development plan should set forth goals for teaching and learning, and describe strategies for meeting those goals. (Machanic, 1998 p. 5)

I. The policies from the University of British Columbia include the following:

Planning for faculty development

1. Develop a mission and vision statement for teaching and learning.
2. Develop specific goals, objectives and strategies for implementing the mission and vision.
3. Tie future faculty development activities to the plan.
4. Periodically review and update the plan.

Organizing faculty development activities

1. Position teaching excellence as an organizational value.
2. Designate a centralized responsibility center for faculty development. This does not need to be a separate program or unit in the organization, but should be a designated responsibility of one part of the organization (i.e., ET&L), rather than spreading out the activities.
3. Provide a centralized center for TA/LSA support. This should be a sub-component of the designated faculty development responsibilities in order to simplify integration with regular faculty development activities.

Activities for new faculty members

1. Develop and implement a comprehensive new faculty orientation program.
2. Develop and implement a mentoring program for new faculty.
3. Develop and implement workshops and training s on pedagogy/teaching and learning, including learning theory and approaches and techniques for teaching.

Activities for continuing faculty members

1. Encourage continuing faculty development through incentives and rewards for participation in faculty development activities.
2. Encourage excellence in teaching through recognition and rewards.
3. Provide a targeted semester-start faculty development program each term that includes workshops in pedagogical theory and methods for teaching.
4. Develop and implement a peer mentoring program for continuing faculty.
5. Develop and deploy a cadre of master teachers.
6. Provide ongoing workshops, speakers and training s on topics of professional interest to continuing faculty.
7. Encourage research and innovation in teaching through incentives and funding opportunities.

Using technology in faculty development

1. Include technology training in ongoing faculty development activities.
2. Use technology to provide some faculty development content and activities.
3. Encourage development of new teaching/learning resources and courses incorporating technology through incentives and funding opportunities.
4. Disseminate information about teaching, learning and educational technology throughout the institution via e-mail, website and electronic or print newsletters.

Building bridges

1. Encourage faculty to participate in off-campus faculty development activities, to publish their research in teaching and learning, and to publicize their activities in and commitment to teaching and learning excellence.
2. Encourage faculty support staff to participate in off-campus professional development activities and research activities related to teaching and learning.
3. Bring in faculty development specialists and faculty from other institutions for faculty development idea-exchange programs (Machanic, 1998).

Recommendation Seven--Student Support Services

The seventh recommendation was for states and institutions to be aware of the support students needed to succeed in a distance learning program. There is much more to a successful education system than the quality of the academic experience. How the educational environment supports a student is a key to that student's academic success and personal development (Scott, Phillips, Fage, Jennison, & Webb, 1997, p. 1).

Critical to the success of any distance education program has been the ability to provide comparable programs and services to those offered on campus. Areas of concern include admissions, registration, academic advising, remedial services, placement services, testing and assessment, orientation, computing departments, financial aid offices, counseling, and 24-hour help desk services.

> According to the organization Innovations in Distance Education (1995) the most important components in the design of distance education programs have been those that establish the organizational and administrative infrastructures to ensure that such programs can be efficiently and effectively developed, managed, and executed. (IDE, 1995)

With a grant from the AT& T Foundation, Penn State University developed Innovations in Distance Education. The purpose of IDE was to help universities create a supportive institutional culture in which the possibilities of distance education could be realized. The following principles addressed the areas of student support policy development and should be considered by policymakers when creating national (state level) and institutional level policies.

I. Since distance education students have widely varying access methods available to them, redundant systems should be in place for many support functions. The overall support system should address the following areas:

   1. technical support, instructional resources, faculty development, instructional design and
   2. development, and policy changes aimed at creating an environment conducive to distance education.

II. A comprehensive system of technical support services should be in place to ensure the effective use of technologies in distance education programming for learners, instructors, and staff.

   Representative practices

   1. Consider access needs for instructors, learners, and staff to the range of technologies included in the program design. This could include provision of software; hardware, server space, or Internet access accounts.
   2. Train faculty and students in the use of high-tech instructional components of courses through a noncredit offering. Instructors and learners should come

from the training both knowledgeable about and comfortable with using whatever instructional resources the courses required.

3. Ensure that learners understand the equipment requirements and technology skills necessary to participate effectively in a program prior to their enrollment.
4. Provide a common platform delivery environment where possible. Clearly articulate the platform and capabilities that distance education programs support.
5. Devise a system to ensure that instructional technology hardware and software capabilities remain reasonably current and in step with major shifts in the use of instructional delivery systems.
6. Provide adequate warning if system requirements change for learners participating in a program, such as the need to upgrade technical systems in order to continue the course of study.

III. Support systems should be designed to provide service seven days a week, twenty-four hours a day for faculty and learners. The support systems should be able to accommodate a geographically dispersed learning population across time zones.

Representative practices

1. Provide documentation, such as Frequently Asked Questions (FAQs), troubleshooting guides and procedures, and commercially available tutorials (in both electronic and print format), which addresses support questions without direct human intervention.

2. Provide help desk services for fielding questions and solving problems for learners and instructors during regular operation hours. Train help desk personnel to be prompt, courteous, and highly competent.
3. Consider creative support strategies to provide learner support during institutional off-hours. These may include use of student staff, on-call staffing arrangements, answering phone service, participation with regional institutions in other time zones, and contracting with external services for off-hours support.
4. Construct technology based just-in-time support services where possible. This may include touch-phone help systems, on-line tutorials, or CD-ROM interactive troubleshooting systems.
5. Employ collaborative learning methods within the learning community, where appropriate, to ensure that learners derive benefit from others in their learning community. Help learners to consider their peers as valuable resources and offer them incentives to provide mutual help.

IV. Regular feedback mechanisms should be designed and implemented to assess successes and failures of the various support services created for the distance education system.

Representative practices

1. Design strategies to continuously track the needs and satisfaction of distance education students. Obtain information to answer such questions as Was technical support helpful? and How long did it take to solve the problem?

2. Establish performance standards for customer support personnel. Provide incentives for them to give the best technical support possible.
3. Provide intelligent on-line help systems to allow students to self-troubleshoot if all lines are busy. Supply a voice mail box to capture requests, and return calls promptly (IDE, 1995).

Recommendations for Future Study

The statistical weakness of the analysis of variance for the dependent factors of infrastructure, program development, and faculty and student support as they related to states that have distance education policy and those that do not pointed to the need for further investigation. Although there were differences in the descriptive factors, the F statistic was disappointing. Therefore, the study could be repeated, taking into account the following circumstances:

1. The study would prove to be more effective if there were a higher survey return rate.

2. There is a need to place emphasis on a study directed toward a more comprehensive analysis of institutional policies. Gellman-Danley and Fetzner (1998) argued that policies can provide a framework for operation, an agreed upon set of rules that explain all participants' roles and responsibilities (p. 1). By focusing on the roles and responsibilities, researchers would be able to determine which institutional policies have been the most equitable and effective for promoting institutional balance and advancement.

3. A study would be beneficial on the investigation of differences between institutions that have developed partnerships and collaborations with business and industry and those who have not. By investigating the differences between institutions that have partnerships/collaborations, states would be able to determine which type of distance learning program would be most successful in meeting the needs of the 21st century workforce.

4. One further avenue of research would be to emphasize a policy analysis addressing all levels of international, national, and institutional electronically delivered distance education policies. The Global Distance EducatioNet (2000) recommended that at each level of education the issues that must be addressed differ with the needs and circumstances of potential students and with the type of distance education. In researching solutions to the wide range of issues, distance educators and policymakers need to consider all three levels of policy (Global Distance EducatioNet, 2000, Section Program and Sector Policy).

Final Conclusion

The examination and analysis of the three dependent factors of infrastructure, program development, and faculty and student support was an attempt to address the critical need for policy development at the state level. The data collected would be useful for states determining what policies should be addressed and implemented at both the state and institutional level. Future studies in this area should be pursued in an attempt to maximize the efficiency and effectiveness of electronically delivered distance education programs.

APPENDIX A
SURVEY INSTRUMENT

Distance Education Policy Survey

Please return completed questionnaire to:

David S. Honeyman, Director of Finance Institute
University of Florida
PO Box 117049
Gainesville, FL 32611-7049

State Name: _____

Person Completing Survey:

Name:_____

Address:_____

City/State/Zip:_____

Phone/Fax:_____

E-mail:_____

Directions:
Please fill out the following survey and mail it to the University of Florida by **Friday, November 12, 1999**. Be sure to include all the materials requested. You will find a list on the last page indicating the exact materials to submit. Thank you for your time and assistance.

For clarification,

Distance Education refers to the modes of electronically-delivered courses.

Quality is defined as the degree to which the electronically-delivered distance education course provides the best mix of educational offerings.

Equity involves providing access to educational opportunities for students while providing for financial needs to make obtaining an education a reality.

Distance Education

1. Do you have written distance education policy guidelines?

   ❒ Yes ❒ No
   If yes, please enclose a copy of the distance education guidelines.

2. a. For FY98/99 what is the Percentage (%) of the total state budget allocated to distance education _____%.

   b. For FY97/98 what was the Percentage (%) of the total state budget allocated to distance education _____%.

3. Please list the various sources of funding for electronically-delivered distance education for your state?

4. For the last legislative session, were there any legislative funding initiatives passed to support distance education technology?

   ❒ Yes ❒ No

   If yes, please check which mechanism(s) is/are being used to distribute the funds: (check all that apply)

(Check all that apply)	Funding mechanisms	% of $ for Distance Education
	Competitive Grants	
	Matching Funds	
	Formula Distribution	
	Earmarked for specific institutions or projects	
	Other_____ _____ _____	

5. Where possible please indicate the percentage of the distance education budget that is allocated to each component?

Distance Education Component	Percentage (%)
Distance Education Instructional Delivery Stateshare/users/student fee	%
Administrative Management	%
Course Development	%
Telecommunications	%
Hardware	%
Software	%
Faculty	%

6. In your opinion how much do you think your state s investment in distance education is going to decrease or increase relative to other components of educational programs in the future?
(please check box that applies)

	1= significant decrease	2= decrease	3= slight decrease	4= slight increase	5= increase	6= significant increase	7= neutral/ no opinion
Level of decrease /increase							

7. Please rank the following spending categories according to the current level of state needs. (1-3)

Rank	Spending Category
	Infrastructure (e.g. Hardware, Networks, Telecommunication, Software)
	Program Development (e.g. Course development, Student Financial Aid, Marketing)
	Faculty & Student Support (e.g. Faculty training, Faculty release time, Administration, Student Support)

8. Given the technological growth within postsecondary education, how important are the following agencies to the development and support of increasing access to electronically-delivered distance education?

	(1) Not Important	(2)	(3)	(4)	(5) Very Important
The Distance Education Demonstration Program					
The Learning Anytime Anywhere Partnership					
Regional Consortia (e.g. SREB, Western Governor s University)					
Local Distance Education Consortia					
Accrediting Agencies/Commissions					
National Associations (e.g. AACC, League of Innovation)					

9. As you consider the technological challenges facing your state in the future, please evaluate how important each of the following technological functions should be in influencing distance education policy?

	(1) Not Important	(2)	(3)	(4)	(5) Very Important
Statewide Technology Infrastructure					
Campus Infrastructure					
Library Issues					
Overall Coordination/Planning					
Role & Mission					
Geographic Service Areas					
Program Development					
Funding Policies					
Partnerships/Collaborations					
Faculty/Curriculum Development					
Student Services					
Other_____ _____ _____					

10. Some experts suggest that more than 80% of the jobs in the foreseeable future are going to require some form of postsecondary education. Anticipating the future needs in your state, how important should each of the following be in the development of distance education policy?

	(1) Not Important	(2)	(3)	(4)	(5) Very Important
Invest more in career training					
Invest more in technological advancement in teaching					
Expand access to degrees in distance education					
Develop partnerships/alliances with business and industry					
Invest in faculty development					
No additional requirements will be required					

11. If there is a significant increase in the number of people who want to enroll in electronically-delivered distance education programs, in your view, which of the following policy initiatives would you support to help your state cope with the increase access demands?

	(1) Not Important	(2)	(3)	(4)	(5) Very Important
Articulation Agreements					
Transfer (2 + 2)					
Geographic Restrictions					
Course Duplication					
Learner Technology Fees					
Provide Faculty Incentive Pay					
Faculty Compensation					
Provide Faculty Release Time					
Faculty Training					
Faculty Technology Support					
Student Financial Aid					
Student Orientation					
Student Advising/Counseling					
Student Technical Support					

12. In order to maximize the return on investment, which areas should receive funding when faced with increased demand for electronically-delivered distance education? Indicate your levels of agreement with the following investment options:

	(1) Not Important	(2)	(3)	(4)	(5) Very Important
Invest in Technology					
Invest in Networks					
Invest in Hardware					
Invest Software					
Expand capital infrastructure (e.g., build new technology centers)					
Increase Student Financial Aid					
Increase operating support to support enrollment growth					
Improve faculty and staff salaries					
Invest in faculty development/training					

13. What factors have kept your state from expanding electronically-delivered distance education programs?

	(1) Not at all	(2) Minor extent	(3) Moderate extent	(4) Major extent
Lack of fit with institution s mission				
Lack of perceived need				
Lack of support from institutions administrators				
Program development costs				
Equipment failures/costs of maintaining equipment				
Limited technological infrastructure to support distance education				
Concerns about faculty workload				
Lack of faculty interest				
Lack of faculty rewards or incentives				
Legal concerns (e.g. intellectual property rights, copyright laws)				
Concerns about course quality				
Lack of access to library or other resources for instructional support				
Interinstitutional issues (e.g. allocation of financial aid, course credit)				
Restrictive federal, state, or local policies (e.g. limitations on number of credits, financial aid)				
Inability to obtain state authorization				

14. Please indicate which of the following statements comes closest to your personal perspective?

	Statement A: Competition from the marketplace rather than public policy will drive most significant change in electronically-delivered distance education programs.
	Statement B: Our changing economy and the increasing demand for quality electronically-delivered distance education programs will require strong leadership from policymakers in order to define new policies for higher education that will ensure state needs are met into the next century.
	Statement C: Given political realities, limited state resources and the resistance to change from postsecondary institutions, there will be little change in state policies regarding distance education.

14. What are the top three issues that are currently at the forefront of policy discussions regarding electronically-delivered distance education technology?

1	
2	
3	

Please utilize the following checklist to ensure that you have included all the materials requested.

❒ **Please enclose a copy of the distance education guidelines**

APPENDIX B
COVER LETTER

October 12, 1999

Dear Colleague:

As a key decision maker your participation is requested to assist us in learning what policies affect the implementation and development of distance education at the state and institutional level. The National Council of State Directors, the Community College Business Officers, and the University of Florida Institute of Higher Education are sponsoring this research. Electronically-delivered distance education was identified as one of the top critical issues facing higher education at the 1999 Community College Futures Assembly. Please complete the enclosed informed consent agreement and return the survey by **Friday, November 12, 1999**.

With the heightened interest with this topic nationally we will be disseminating the findings with the members of the above three organizations. Thank you for your time and consideration in this matter.

Cordially,

Don Puyear, Executive Director
State Board of Director4s for Community Colleges of Arizona
And Chair, National Council of State Directors

Christyne Hamilton
VP of Administrative Services
Seminole Community College
& President of the Community College Business Officers

Dale F. Campbell
Professor & Director
Institute of Higher Education
University of Florida

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Elizabeth Marie Hodge was born in Oneonta, New York, and spent most of her childhood and teenage years in Ithaca, New York. She received a bachelor of science degree in commercial recreation in 1991 from Ithaca College in Ithaca, New York, and a master of science degree in business education in 1997 from East Carolina University in Greenville, North Carolina.

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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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